

AMERICAN BEE JOURNAL

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Does the Eye Mislead, or are These Bee-Hives? They are Indeed a New Departure in Hives. Apiary of A. B. Anthony, at Sterling, Illinois

The odd looking hives shown above are the invention of a practical bee-keeper. The Editor was invited to visit his home last August. After having laughed at the odd shape of the hives, he was astounded to see the rapidity and ease with which each hive could be opened, and every part of every comb inspected. The Huber leaf-hive, which is really the ancestor of this invention, cannot possibly stand any comparison. Mr. Anthony, who has taken steps to cover his invention with patents, opened hive after hive without crushing a single bee, and demonstrated that he could hunt up and discover the queen or the queen-cells more quickly than with any other hive the Editor has ever seen. Frames may also be removed with remarkable rapidity.

This is not intended as an advertisement for Mr. Anthony. The Editor has no interest in the invention, and describes it only as one of the greatest novelties of the day. The second picture, on page 200, shows the device for tipping the hives in order to open them. The highest ingenuity is shown in this invention.



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(Organized 1870.)

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I will accompany the bees and guarantee safe delivery. Purchaser to pay the freight.

MY SEVEN YARDS ARE OVERSTOCKED.

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Bees are Italians and Banats crossed, and many of them are pure mated for the production of honey. Could ship if wanted after Sept. 15, this year, at \$5.50 a colony. Health certificate furnished.

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American Bee Journal, Hamilton, Illinois.

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I am now located in Northern Idaho, in what is known in the Northwest as "The Inland Empire." I believe it is destined to be the great "fruit-basket" of the United States. It is also exceptionally fine for bee-keeping, dairying, poultry, etc. I am told by those who have lived here for years that the climate, take it the year around, is hard to beat. There is practically unlimited territory that is unoccupied. The Clovers (white clover, especially), willow-herb, golden-rod, berries, etc., abound everywhere in this region. Land can be had at all prices, depending upon location, condition of cultivation, etc. I will be glad to help any one to a good location for bees, etc., if requested. I, myself, have no land for sale, but I can put you in touch with reliable people who have it. Soil and drinking water are of the best. No irrigation necessary in this part of Idaho.

A Few Special Offers.

American Bee Journal one year (\$1.00) with either "First Lessons in Bee-Keeping" (50c), or Doolittle's "Scientific Queen-Rearing" (50c), for only \$1.00; or the American Bee Journal a year with **both** of the books mentioned—all postpaid for only \$1.40.

If you prefer, you can have either Gleanings in Bee Culture or the Bee-Keepers' Review for a year instead of the American Bee Journal in the above special offer; or, if you want both books and any **two** of the three bee-papers, send \$2.20; or if you want both books and all three bee-papers for one year, send \$2.90.

Send for my **free** Circular of other special offers.

White Sweet Clover Seed

I have a quantity of White Sweet Clover Seed in Chicago, Ill., which I will sell at the following low prices so long as it lasts, all orders to be sent to me here at Sandpoint, Idaho:

5 lbs. for 80c; 10 lbs. for \$1.50; 25 lbs. for \$3.50; 50 lbs. for \$6.50; or 100 lbs. for \$12.00.

If wanted by freight, add 25c for cartage on your order.

While I make the handling of bee-literature a specialty, I also take subscriptions for general magazines. Write me what you would like in the way of bee-papers, bee-books, etc., and I will be glad to quote you some attractive prices. Address,

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Our Standard-Bred

**6 Queens for \$4.50 ; 3 for \$2.50 ;
 1 for 90 cents.**

For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:

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GEORGE W. YORK & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
 Ontario, Canada, July 22. CHAS. MITCHELL.

GEORGE W. YORK & Co.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
 Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W. YORK & Co.:—The queen I received of you a few days ago came through O. K. and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee line.
 Marion Co., Ill., July 18. E. E. MCCORM.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 90 cents, or with the old American Bee Journal for one year—both for \$1.60. Three Queens (without Journal) would be \$2.50, or 6 for \$4.50. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

American Bee Journal, Hamilton, Illinois.

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BEE KEEPERS:—

We manufacture Millions of **Sections** every year that are as good as the best. **The CHEAPEST** for the Quality; **BEST** for the Price. If you buy them once, you will buy again.

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When You Buy Lewis Beeware You Get

Lewis Quality Which means that all Lewis Hives are made out of clear white pine, and Lewis Sections made out of fine bright basswood. Material in these goods is the best obtainable, selected by experts.

Lewis Workmanship The Lewis Factory is equipped with the latest improved machinery, constantly watched over by experts. The Lewis head mechanic has 35 years of bee-supply experience; the superintendent of bee-hive department 29 years; the superintendent of sections 28 years. These and many other skilled men have a hand in all the Lewis goods you buy.

Lewis Packing All Lewis Beeware is carefully and accurately packed — a patent woven wood-and-wire package made only by the Lewis Company is employed largely in packing; this makes the package light, compact and damage-proof.

Lewis Service Years ago all goods were shipped direct from the factory with attending high freight-rates and delays during the honey season; **now** Lewis Beeware can be obtained almost at your own door. Over 30 Distributing Houses carrying Lewis Beeware by the carload, are dotted all over the United States and foreign countries. Write for the name of the one nearest you.

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C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

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EDITORIAL COMMENTS

Amount of Honey Consumed by a Colony

The reader will find in this number a very interesting article upon this question from the pen of Adrian Getaz. Mr. Getaz shows, as usual, profound study on his subject.

On the cost of wax, however, one of his authorities is hardly to be relied upon. Sylviac is the writer who, after making an experiment on the honey extractor, denounced this implement as impracticable. No further comment is necessary.

Regarding the weight of cappings, the Editor has repeatedly found that it amounts to from 1 to 1½ percent of the total weight of the honey extracted.

The cost of wax to the bees is not only the actual consumption of honey, but also the loss in crop to those bees while they are confined to the hive, building the comb. If we figure it in any other way, we delude ourselves. Of course, for the purpose of ascertaining how much honey is actually consumed, Mr. Getaz' argument is good. But the exact cost in honey can be no better determined than the cost in corn for the fat produced in cattle. It evidently varies with circumstances.

To All Who Have No Foul Brood

Every now and then a letter comes from some one in a panic because there is some unusual appearance in his hives, and he is afraid foul brood is present. It may be that there is nothing serious whatever, and he might have saved himself the panic if he had only taken the trouble to read up a little on the symptoms of bee-diseases. But he had always felt that he was not interested in foul brood, and in his reading skipped anything on that subject.

In most cases, however, it is likely that fears are justified. Foul brood is so thoroughly scattered all over the land that no matter how secure you

may now feel it is only a question of time when it will silently make its appearance in your apiary. It will make no great hurrah upon its arrival, but it will be there. So the more you know about it in advance the better you will be able to meet it. It may be many dollars in your pocket if you can stamp it out while yet it is in only one or two hives rather than to wait until it is scattered through your whole apiary.

If you suspect disease in your brood, do not send samples to this office or to Dr. Miller. Send them to Dr. E. F. Phillips, Agricultural Department, Washington, D. C. Dr. Phillips is very much in earnest in doing what may be done toward overcoming the evils of foul brood, and will be glad to help you. If you write to him in advance, he will send you a tin box just right to contain a piece of brood-comb 3x4 inches. Not only that, but he will send you a frank so that postage for sending will cost you nothing. And he will make no charge whatever. Could you ask anything better? Keep a sharp lookout, and act promptly on the first appearance of anything wrong.

Mailing System of the World

The "Outlook" for March 23 contains an article entitled, "On the Trail of the Red Letter," describing the manner of transporting mail from the largest business centers to the most remote country post-offices. The methods of postal transportation are wonderful, and postal agents all over the world are amazingly accurate. Not only are all sorts of articles, from an umbrella to a queen-bee, sent safely from one part of the world to another, but the most abbreviated addresses are sufficient, if clearly written. A letter bearing the three words: Dadant, Hamilton, America, and mailed in Japan, reached its destination at Hamilton, Ill., in spite of the fact that there are 29 Hamilton post-offices in the

United States alone. The post-marks showed that this missive was first sent to Hamilton, Ont., which is the largest Hamilton in America. From there it was forwarded, on trial, to Hamilton, Ohio. The postal authorities at the latter place being supplied with our address, the letter came on to Illinois without further detour.

But the postal service of America will not equal that of other countries until we get a parcel-post equal to theirs. Thus far, the Express Companies, by lobbying and misrepresentations, have succeeded in foiling the desires of the great majority, and have induced the retail merchants to believe that the establishment of a parcel-post would be the death of the local retail trade. The experience of other countries proves this to be entirely false. Is it not a positive shame that a half pound of merchandise samples may be sent from your post-office to the end of the world, to Japan or Formosa, or to the Fiji Islands for 4 cents, while it costs just twice as much to mail it to your next post-office? Very few people are aware of this. It is to be explained only by the desire of enriching the Express Companies at the expense of the people. It is a success. How much longer will you stand it, you American voters?

The Dickel Theory and Parthenogenesis

The first volume of the American Bee Journal was published in 1861. It has been claimed that no single volume of any bee-paper was ever of more value than that, because it contained a full discussion of the Dzierzon theory. Throughout 10 months of the year ran the translation of a series of articles written by the Baron of Berlepsch, laying down 13 propositions which are now accepted by the readers of this paper. But when they were first published in the German Bienenzeitung, in the middle of the 19th century, some of the views advanced by Dzierzon were bitterly opposed.

Chief among the views considered more or less novel at that time were the following: In order to be able to lay both male and female eggs the queen must be fecundated by the drone; the fecundation of the queen is always

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effected outside of the hive, in the open air, and while on the wing; all eggs in the ovary of the queen develop as males unless impregnated while passing the mouth of the spermatheca; if a queen remains unfecundated she ordinarily does not lay eggs, but if she does, the eggs produce only drones.

Parthenogenesis, or the production of a new individual from a virgin without the intervention of a male, was the chief bone of contention. "The controversy was a very animated one," says the American Bee Journal, Vol. I, page 5, "nor was opposition silenced till, by the introduction of the Italian bee, the means of conclusively determining the chief points at issue were furnished."

Fortunately the American readers of bee-papers have been saved the many pages of discussion, and they are to be congratulated also on escaping the pages upon pages of discussion that have occurred in German bee-papers within the last few years concerning a theory put forth by Ferdinand Dickel. Contrary to the Dzierzon theory, Mr. Dickel claims that *all* the eggs laid by a queen are impregnated, an egg laid in a drone-cell being precisely the same as an egg laid in a worker-cell, the sex of the egg being determined after it is laid, by the manipulations of the nurse-bees.

In this connection it may not be uninteresting to recall that in that same first volume of the American Bee Journal E. Kirby, of Henrietta, N. Y., advanced the theory that "the workers in their flight with the drones alight on the drones' backs and cause them to give off their semen, which the workers lick up and carry to their appropriate cells in their hives, for the purpose of propagating the young queens." Nine different articles were occupied with the discussion of this theory, one of the participants being no less than the Rev. L. L. Langstroth.

Whether the Dickel theory shall fade away as utterly as has the Kirby theory remains to be seen.

Dickel is not the only man who has tried to upset the Dzierzon theory. Some 20 years ago, in Italy, Canon Ulivi also brought forward a theory, on the same subject. It is now buried.

One of our correspondents from California brings us an argument, the statement made by Mr. A. C. Miller, that "the drones of the yellow races are in coloring quite variable." This he gives as evidence that the drones of a pure queen impurely mated are tainted by the mating. But the fact is that the drones of the yellow races are variable in their own country, where there are no other breeds.

Very unreasonable things have been advanced to support the Dickel theory. In L'Apiculteur, for February, a writer makes an alleged quotation from L'Académie des Sciences, testifying that the sex of a child may be changed before birth by treating the mother, at the proper time, with "adrenalin."

We propose to abstain from any discussion of the Dickel theory, at least until the Germans come to some sort of understanding among themselves as to what there may be in it. Personally, we consider the Dzierzon theory as no

longer a theory, but a positively proven fact.

Bee-Keeping in the State Universities

We call our readers' attention to an article upon the above subject, in this number, from the pen of E. J. Baxter. Mr. Baxter is not only a large honey-producer, he is also a fruit-grower of note in the horticultural section of which Nauvoo is the active center. Mr. Baxter is first vice-president of the Illinois State Bee-Keepers' Association, and was one of the most influential supporters of the foul brood bill voted by the Legislature at its last session.

The time is ripe for State action in teaching apiculture, and those of our readers who are interested in the progress of our State institutions are urged to make efforts in this direction.

The Kansas Agricultural College is conducting experiments upon the influence of insects on fruit fertilization. Although the experiments are just begun, it is already estimated that the honey-bee constitutes between 80 and 90 percent of all the insects that help in the fertilization of the apple. Dr. Headlee believes that the Kansas crop of apples may be greatly increased if it is proven that the honey-bees help the setting of the apples. We have no doubt that he will find this to be the case. The above is a condensed quotation from the Kansas Industrialist of June 1st.

Exchanging Supers from One Colony to Another

The novice may wish to try the excellent plan suggested by Mr. Doolittle, in the present number, for securing a larger number of well-finished sections. Let him bear in mind that during a honey-flow he does not need to remove the bees from a super when making these exchanges, for at such times there is no disagreement, no fighting. The only thing to guard against is the accidental removal of a queen, if she should have been frightened away from the brood combs into the supers. This accident is impossible when queen-excluders are used.

The Editor has often used this method of "equalizing" the supers some days before the close of the crop, and recommends it highly, even in the production of extracted honey.

Ill-Jointed Hives and Robbing

Old disjointed hives give the apiarist much trouble, when any robbing occurs at the end of the honey crop. A quick way to repair them temporarily is to plaster the cracks with a little clay mixed with water. It effectively closes up the unwelcome openings. Our European brothers use a mixture of cow-dung, clay and ashes, which makes a cheap and lasting cement.

Spacing the Frames

The practical apiarist knows that brood-frames can not be spaced at less than $1\frac{3}{8}$ nor more than $1\frac{1}{2}$ inches from center to center. But the beginner often hesitates, and sometimes

hangs the frames too far apart or too close together. Loose hanging frames should be fastened down in their place until the swarm has been hived and moved to its permanent stand.

Dr. Miller's Answers

It is the desire of the American Bee Journal to make this department as useful as possible to its readers. All questions pertaining to bee-culture are welcomed, and Dr. Miller will answer them to the best of his ability. There is, however, one limitation. Elementary matters which are taught in every good book on bee-keeping are not legitimate subjects for this department. It is the supposition that every reader has such a book. If he has not, he is standing greatly in his own light not to get one immediately. Now and then, however, some one may feel like saying, "I have no bee-book, and I don't want to get one, and I want all my questions answered the same as others." And what are some of the questions he will want answered—that every bee-keeper must know about, sooner or later? Here are some of them: "Does the old queen or the young one go with the first swarm?" "How long is it from the time the egg is laid until the worker comes out of the cell?" "Does the queen lay drone eggs as well as worker eggs?" "How long does a queen live?"

Now suppose our beginner has all these questions answered for him among Dr. Miller's answers. Each month new subscribers are coming in, and among them those who will want the same questions answered. By the time they are answered over and over again, for a year or so, Mr. Beginner will think there should be some better way than to have space occupied with things that are entirely familiar to all except new subscribers. To meet exactly this need is the office of the textbook on bee-keeping. And it meets the need better than it could be met by a department in a bee-paper answering questions only as they are sent in. It answers not only the questions the beginner would send in, but many others that he might not think to send in, but about which he ought to know.

It might occur to some one that the publishers of this journal are interested in the publication of a bee-book, and are trying to force the beginner to buy it. It is true that they are interested in "Langstroth on the Honey-Bee," and believe it a good book. Yet there are others; and, of course, each one is entirely at liberty to get what book he chooses. The possession of *some good book* is absolutely essential to any one who would make a success at bee-keeping. With even a single colony, the price of a book may be saved in a year by its teachings. So it is in the beginner's own interest that he is urged to get such a book.

But after you have a book, or even several books—and there is advantage in having more than one, as also in having more than one bee-paper—there will still be questions constantly arising that are hardly answered in a book, however good the book may be. To meet this need is the province of "Dr.

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Miller's Answers." Perhaps in the book there is some point about which further explanation is needed. Dr. Miller will be glad to help in such a case. Something special may arise in your experience that the book does not touch upon. Ask about it.

Occasionally some one writes that he has been watching to find among the answers something in which he is interested, and appears to have a grievance that he has found nothing. Has it never occurred to him that if all would wait for questions asked by others there would be no questions, and consequently no answers? Don't wait for some one else to ask your question, ask it yourself. Proper questions are desired and welcomed.

If you will take notice of the large amount of matter contained in one number, you will realize that there ought to be room for many subjects, and that a magazine which goes to so many different localities and countries must necessarily contain great variety. Some things which may not be of interest to you will interest others, and there is not a magazine in the world which will give only such information as you may want for your individual self.

Sometimes a question is sent in, say the last of June, with the injunction, "Be sure to get this in the July number," when it may be that at the very moment that injunction is being written the paper is already on the press, with no possibility of the question being answered until a month later. And it may be that the question is one that might just as well have been asked a month or two earlier, only it did not seem so pressing then, and so was put off. It should be remembered that it takes time for a letter to travel in the mail, and then a much longer time for the answer to be put into print. In some cases it may make a difference of a month as to whether a question is sent direct to Dr. Miller or to this office. In all cases it is a little better to send direct to him, although questions will be cheerfully forwarded to him from this office.

Questions from the ladies should be sent to Miss Emma Wilson, Marengo, Ill., such questions always having the right of way, and getting the best attention that can be given both by Miss Wilson and Dr. Miller.

It hardly need be said to any thoughtful person that he should not expect Dr. Miller to make an exception in his case and send an answer by mail. If that should be done in one case it should be done in all cases, and there would be no department of questions and answers. All should be treated alike.

Congratulations Received

The Editor acknowledges the many complimentary letters received from friends in all parts of the world concerning his new position. They are appreciated, indeed. We would be proud to publish some of them, especially those from our most esteemed friend, Prof. A. J. Cook, now Commissioner of Horticulture in California. But it will be better to try to deserve

half of the good words spoken so kindly.

A Meeting of Bee-Men in Eastern Illinois

The Editor was present at a meeting hurriedly called at Watseka, Ill., on June 8, for a field demonstration. Inspector Kildow, his deputy I. E. Pyles, Jesse H. Rolerts and H. S. Duby, officers of the Eastern Illinois Bee-Keepers' Association, and several others were present. A report of this meeting, and of another to be held a little later at St. Anne, Ill., will be published in the journal. The bees have suffered greatly in eastern Illinois, and there is very little white clover.

Cause of European Foul Brood

We mentioned last month Circular No. 157, issued by United States Department of Agriculture, written by G. F. White, M.D., Ph.D. With praiseworthy persistence Dr. White has continued his effort for several years to trace to his lair the miscreant that causes European foul brood, and at last his efforts have been rewarded. One bacterium after another has been named by different investigators as perhaps the right one, but with no great certainty. As early as 1907, in the investigations of Dr. White, a certain micro-organism came under suspicion, which he referred to as *Bacillus Y*. He now feels warranted in announcing that this is the real cause of European foul brood, and has named it *Bacillus pluton*. Those who are interested in learning the successive steps by which Dr. White reached his conclusion will do well to send 5 cents to the Superintendent of Documents, Government Printing Office, Washing-

ton, D. C., to obtain a copy of the circular.

The average reader will not be so much interested in this scientific phase of the subject as he will in the instruction as to diagnosis. When healthy larvæ of such size as to fill quite full the bottom of the cell while still coiled up, are slightly magnified, a peristalsis like motion of their bodies is easily seen, but if the larvæ are sick this motion may frequently be seen by the naked eye. If, instead of the glistening white or bluish-white appearance of healthy larvæ, one observes some that are more transparent, or that possess a very slight yellowish tint, frequently such larvæ are diseased. Some other means of diagnosis that are given, to be used while the larvæ are still alive, will hardly be applied by the rank and file of bee-keepers.

If we may depend upon Dr. White's researches, we now know that *Bacillus alvei*, so long considered the cause of foul brood, is not a cause of disease in bees at all, although often found in large numbers in diseased brood; also that American foul brood is caused by *Bacillus larvæ*, and that European foul brood is caused by *Bacillus pluton*, although as to this latter Dr. White says: "This organism is an unusual one, and the classification has not yet been definitely determined. The generic name '*Bacillus*,' therefore, may, and probably will, be changed later."

Is Past 80 Years Old

Mr. Edouard Bertrand, of Nyon, Switzerland, former editor of the *Revue Internationale D'Apiculture*, was 80 years old on May 16th.

We wish him many more happy anniversaries.

MISCELLANEOUS



NEWS ITEMS

Sweet-Clover Bulletin.—The United States Department of Agriculture has issued a valuable bulletin entitled, "Sweet Clover," written by J. M. Westgate, Agronomist, and H. N. Vinall, Assistant Agrostologist. The views of bee-keepers as to the value of sweet clover as a forage plant are likely to be somewhat partial, hence have little weight with neighboring farmers. Here is a document that from its source should be considered rigidly impartial, written in the interest of farmers, and so should have weight with them.

A few extracts will be of interest, and here follow:

It is of so much value, when rightly utilized, that its extension where it will not prove a menace should be encouraged by every legitimate means. Its value as a honey-plant has long been recognized, but its efficiency in increasing the fertility of run-down soils is less widely known. Its utilization as a pasture, hay, and soiling crop is even yet practiced only locally throughout this country, but the extent of such utilization is steadily increasing. The fact that the bacteria on its roots are capable of inoculating alfalfa makes it a valuable crop to

occupy the land immediately before seeding alfalfa. The sweet clover not only inoculates the soil, but the large roots do much toward breaking up and aerating the subsoil, a condition which is very favorable to the growth of the alfalfa plants.

It makes its best growth on rich, well-limed ground, but will make satisfactory growth on very poor lime-stone soils. It succeeds on newly-exposed clay soils that presumably lack lime, but does not spread rapidly in clay soils outside of the lime-stone sections. When wanted for hay it will usually pay to seed it on fairly good soil, but for pasture the poorer fields of the farm can be made to yield returns that will justify the utilization of this crop upon them. Its value comes not only from the pasture obtained, but also from the improvement resulting to such poor soils, especially if they be of limestone origin. After a few years in sweet clover, during which considerable pasture can be utilized, the ground will be brought into much better conditions for cultivated crops than it was before the sweet clover was established.

Sweet clover requires a thoroughly compact seed-bed with just enough loose soil on top to cover the seed. Failures on cultivated soil have probably generally been due to the fact that

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the ground was not solid enough. Look at the successes on the hard roadside.

It usually requires 20 to 30 pounds of hulled seed per acre, 5 pounds more if the seed is unhulled. It may be sown as soon as the ground is dry enough in the spring, but in the latitude of Iowa best results are obtained by sowing the first week in May. It is more successful when the seed is sown alone.

On account of its bitter taste, animals are slower about learning to eat sweet clover than they are about eating other legumes. But the fact that in at least half of the States in the Union, stock have become accustomed to eat this plant indicates that the natural distaste which stock at first show can be successfully overcome. They learn to eat the dried hay more readily than the green plant, and they are likely to take kindly to the tender shoots in the spring when other growth is scarce.

Fresh sweet clover contains 20 percent less of protein than fresh alfalfa, and 11.4 percent less than fresh red clover. Sweet-clover hay contains 7 percent less protein than alfalfa hay, and nearly 10 percent more than red-clover hay.

The following table of comparative values per ton of different feeds is interesting:

Sweet-clover hay.....	\$18.49
Alfalfa hay.....	20.16
Red-clover hay.....	14.12
Timothy hay.....	9.80
Cowpea hay.....	19.76
Wheat bran.....	22.80
Shelled corn.....	20.16

From certain sections of western Iowa, steers have been turned off fat from sweet-clover pasture, and have brought \$1 per hundredweight premium over the ordinary grasspastured stock marketed at Chicago from the same locality.

The dairy farmers around Ferron, Utah, are practically unanimous in the opinion that sweet-clover hay will produce as much or more milk than alfalfa, and it is also very highly prized for feeding horses during the winter.

You can have a copy of this bulletin sent free to you if you apply to your Congressman or the Secretary of Agriculture, Washington, D. C., for Farmers' Bulletin 485.

Black Bees in Switzerland.—E. P., in the "Bulletin D'Apiculture," makes the statement that the Italian bees have never given him the satisfaction which he secured from his black or common bees. He ascribes their failure to the altitude, 4600 feet. This may be the explanation of the fact that nowhere in Switzerland have the Italians proven as satisfactory as they have in America. Of course, we have bee-culture in Colorado at the same altitude, but it is in a much warmer and drier climate than that of Switzerland. The two countries can not be compared as to conditions.

Stretching the Limit.—A grocery house had purchased 10 barrels of glucose. As an experiment they fitted up a top-floor as a honey factory. First they had the floor concreted, then they poured in the glucose, and on the top of it floated a number of very thin boards pierced with holes like a colander.



ANTHONY'S REMARKABLE HIVE-LIFTER.—(See front page.)

der. Several hundred bees were then turned loose in the room. They alighted on the boards, and their weight was sufficient to bring up the glucose through the holes in the boards. Hives had been prepared around the room, and when the bees were surfeited they went into the hives and stored the honey. It was "pure honey," and, according to the salesman, was sold as such.—*Financial Review*.

What next?

Carniolan Bees in Finland.—Mr. Mickwitz, of Finland, who spent several years in the United States studying bee-keeping, and was for about 3 months in our apiaries, sends us the following letter:

I leave Finland on June 1st, for the Continent, to bring home 150 swarms. Most of them are ordered by customers. I expect to build up some 50 colonies this summer, but do not expect any results this season.

I send kindest regards and congratulations to the new Editor, and wish you all kinds of success.
PAUL MICKWITZ.
Helsingfors, Finland, May 21.

Solar Eclipse and Bees—Analysis of Honey.—The May number of "L'Apiculture Nouvelle" contains six reports of the influence of the solar eclipse of April 17th on the worker-bees. This eclipse was central in France at 12:38 noon. The bees acted as if the sun was setting, and in most cases precipitately returned home. We noticed the same behavior in a solar eclipse in this country, years ago. Not only the bees, but the chickens and the birds concluded that night had come and hurriedly went to roost.

In the same number, Mr. Alin Caillas, the author of an excellent little treatise entitled, "Les trésors d'une goutte de miel" (The treasures in a drop of honey), gives the result of analysis of honey from different soils, and shows,

by the greater or less proportion of iron and phosphoric acid contained therein, the differences in quality which soils of different grades may produce.

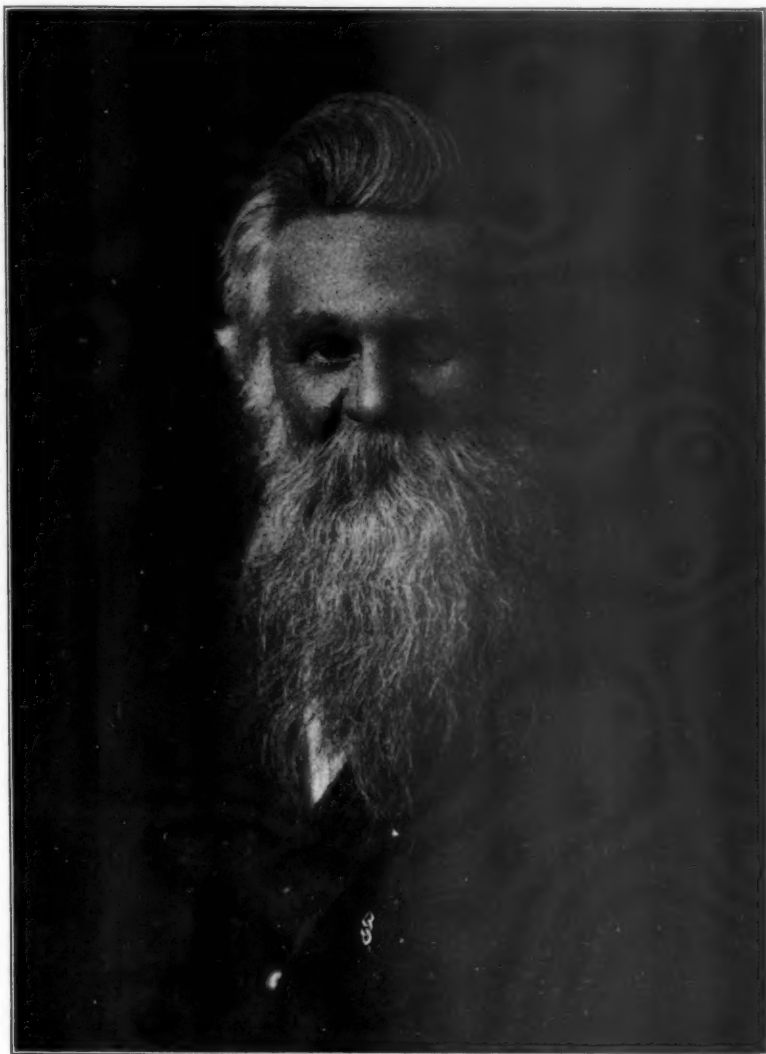
Death of B. T. Davenport.—We have just learned of the death of Mr. B. T. Davenport, of Berlin, Wis., which occurred on Friday, March 29. Mr. Davenport had been a bee-keeper for 40 years, operating from 75 to 200 colonies of bees, and was well known to the more prominent bee-keepers. He had been a subscriber to the American Bee Journal for 25 years. Mr. Davenport was 60 years old at the time of his death. His bees will be managed and operated by his son, who has just finished high school.

European Laws on Foul Brood.—Some French aparian associations, among which we will mention the "Société Hautmarnaise d'apiculture," have passed resolutions asking the Government to "assimilate foul brood to the contagious diseases of domestic animals, and to apply to this disease the provisions of the law of 1881, on sanitary police."—*Les abeilles et les fruits*.

A Million Dollars for a Wife.—An amusing incident occurred at the banquet of the California State Bee-Keepers' Association. A bee-keeper from Utah, when called upon for a toast, said in part: "Do not think, because I am from Utah, that I have a plurality of wives. I have one, and I would not take a million dollars for her, and I would not give 15 cents for another."

Later a prominent bachelor bee-man, who had been "joshed" a great deal about his position, was called upon to answer to the toast. He opened his remarks by saying: "If you will reverse the statement of Mr. Gill it will apply

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MR. E. J. BAXTER, OF NAUVOO, ILL.—(See page 210.)

to me. I have no wife, but would give—" the rest was drowned in a roar of laughter.

The chairman of the publication committee promised to take the matter up and do his best to remedy existing conditions.—*Exchange.*

Missouri State Association vs. the National.—We have received the following from Mr. J. W. Rouse, President of the Missouri State Bee-Keepers' Association:

We notice in the American Bee Journal for May, page 135, the action of the California bee-keepers in regard to affiliation with the National. That is about the condition with Missouri bee-keepers.

Since the establishment of the new order of things, the bee-keepers of Missouri hardly know where they are, and what is best to do regarding the National.

The writer, as well as some others in our State, had paid up for a year or more ahead, but the Secretary of the National has returned to our Secretary what had been sent him from our State, asking us to join the National in a body. Our State Secretary, Mr. J. F. Diemer, of Liberty, has written me several letters asking for instructions. At our last meeting in September, in Kansas City, it was our intention to continue with the National. Since the affiliation rules have come into effect, it has been suggested to call a meeting of our State association to

consider the matter, but only a small number would attend a meeting called at this time of the year.

From first to last, we have secured about 300 bee-keepers as members of our State association, but there is not a third that keep up their membership.

I fear that the higher dues will keep many from affiliating. I should think it much better to have 300 members at \$1 than one-third or less at \$2. One dollar is a popular amount for membership, if more many will keep out even if it were only \$1.25 or \$1.10. I think also that it was a mistake to require a membership of at least 25 to secure affiliation.

In order to perpetuate our State association, it may be necessary to have two rates, one at 50 cents for membership in our State and one at the higher rate for affiliation.

Some are not sure of the advantages of belonging to both associations, whether we are to have any help in protecting our rights as formerly; few have much honey to dispose of, and think the National would not help them in that. There will be no action until we can get another meeting; not before fall.

So far as the writer knows, the former Manager of the National gave splendid satisfaction, and we are at a loss to know why he was not given a try out in the new order of things. This is not casting any reflection upon the present officers, as they all have a first-class reputations.

We would like to hear from others in Missouri with suggestions. J. W. ROUSE, Pres. Missouri State Bee-Keepers' Association. Mexico, Mo., May 17.

We hope the Missouri State bee-keepers will see their way clear to join

the National. We will be glad to have this matter discussed by them in a brief and practical manner.

Something About Flowers.—Prof. John H. Lovell has an interesting article in *Gleanings in Bee Culture* concerning the colors of the North American flowers, in which he says:

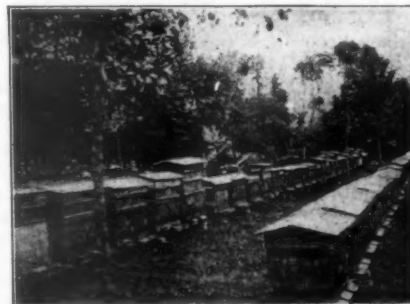
Some years ago I began an inquiry as to how many flowers there are of each color in the flora of North America. In northeastern America, north of Tennessee and east of the Rocky Mountains, there have been described 4020 species of flowering plants, or angiosperms. Partly by direct examination and partly by reference to various systematic works I have tabulated the entire number according to their predominant colors—a labor which, I need hardly say, extended over several years. I find that in this area there are 1244 green, 956 white, 801 yellow, 260 red, 434 purple, and 325 blue flowers.

The green, white, and yellow flowers number 3001, or three-fourths of the entire number; while the red, purple, and blue amount to only 1010. Though there are many exceptions, the first group usually have regular or wheel-shaped or cup-shaped flowers with the nectar easily accessible, and are visited by all flower-loving insects—a miscellaneous company of beetles, flies, butter flies, wasps, and bees.

The probability is that very few bee-keepers would make anything like a fair guess as to the proportion of flowers of different colors. Like enough quite a number would say off-hand that there were no green flowers, unless attention were called to the grasses, and even then probably very few would make the estimate that nearly a third of all the flowers are green. Moreover, if a dozen different persons were asked to give a guess as to how many species of flowers in each hundred are green, white, etc., the dozen guesses would vary widely. In order to make a test of the matter, two experienced flower-lovers were separately asked to make a guess as to the percent of each color, with the following result:

	1st guess	2d guess	Lovell's figures
Green.....	4	15	30.9
White.....	5	25	23.8
Yellow.....	20	8	19.9
Red.....	30	40	6.4
Purple.....	5	10	10.9
Blue.....	8	10	8.

One thing likely to lead to error in estimating, is that attention will be fixed upon the total number of flowers, instead of the number of kinds. Millions of red-clover blossoms will be thought of, whereas red clover only



One of the Apiaries of Abbé Warré, Curate of Martainneville, France.

counts one among 4020. Because there are nearly 4 times as many white species as red, it by no means follows

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that the total number of white flowers may exceed the red.

Prof. Lovell says that "among the wind-pollinated plants are the grasses, sedges, and rushes; many homely weeds, like the pigweeds, sorrels, nettles and ragweeds, as well as many deciduous bushes and trees, as the alders, poplars, elms, beeches and birches." He estimates that these, including a few pollinated by water, number 1046. Deducting this number from 4020, leaves 2974 species depending upon insects of various kinds.

Malta, an island in the Mediterranean sea, was "Melita" originally. That was its Latin name. "Mel" is "honey" in Latin. Was the one derived from the other?

An Industrious Nation is like the honey-bees; we take away their wax and their honey, and the next moment they work to produce more.—*Voltaire.*

A Novel Display.—The photograph given represents Mr J. C. Frank, of Dodge City, Kans., and a corner of his apiary. The capital letters A R Y, shown in the photo, are the last letters of the word "apiary," used by him to make his bees build, out of comb honey, the sign shown on the front

page of the American Bee Journal for March, in his apiary display. Mr.



MR. J. C. FRANK AND PART OF HIS APIARY.

Frank is an active worker, and makes beautiful Fair displays of both bees and honey. Success to such men, for they help to advertise honey among consumers.

an able bee-keeper who probably understands well the honey sources of your State.

Prof. A. J. Cook is now California Commissioner of Horticulture, and a letter addressed to Sacramento would reach him.

A bee will not hesitate to sacrifice its life in defense of its home. Anything aside from this in the line of suicide is likely mythical.

More Trouble With Swarms

It is always a matter of interest to watch the course of an enthusiastic beginner in bee-keeping. The proverb has it that "The course of true love never runs smoothly." The same is true of bee-keeping. And that very fact makes one of its chief charms. To meet difficulties and to overcome them—that's the thing for your true bee-keeper.

Mrs. Spofford was advised, on page 171, to try the Demaree plan of preventing swarming, under the impression that she was working for extracted honey. This was a mistaken impression, and she thought she might succeed by trying the Townsend plan of having a super filled with sections except an extracting comb at each side. Also on one hive she would put a super containing partly-drawn combs in sections. But "The best laid plans of mice and men gang aft agley." Same with women, as witness the following letter:

I am a disgusted bee-woman today. On May 24 I went through all the frames in my 3 hives. In No. 1 I cut out, I think, 9 queen-cells. In Nos. 2 and 3 I couldn't find a queen-cell, but there was brood in both. But in both No. 2 and No. 3 I found scattered about in the bottom of the cells a deposit light in color. There was none in No. 1. In No. 2 I actually found the queen.

Now this is June 2, and out came a swarm from No. 1. I was miserable, and said to myself: It will have to go. I am not prepared to live it; haven't the strength. Half an hour of disgust and I started to find a box. Result, a box into which I put 2 extracting-frames filled with foundation. The box was placed on top of a step-ladder which was also resting on a box. I stood on a chair.

I shook four-fifths of the bees into my improvised hive, and put a sheet of wire-cloth over it. It is now an hour later, and those left in the tree have gone into the box, also. I don't want them, and I am so disgusted not to be able to find some way to discipline them and make them return home to work. I shall improvise a super and put a few sections in it, and let them do what they like; and I shall again go through the hives tomorrow.

Townsend's extracting super, under the sections, did not work this time. What I have in mind to do is to make them join the weakest of the colonies next fall.

(MRS.) CHAS. A. SPOFFORD.
Norfolk, Conn.

Please, Mrs. Spofford, don't be discouraged. If you will allow another proverb: "Faint heart never yet won fair lady," and that other classic: "If at first you don't succeed, try, try again." There is a crumb of comfort in the fact that you can have a colony reach that point of strength to be ready to swarm so early as June 2, when not a fruit-tree was in bloom the middle of May. If you can do that every year, and if you can keep down swarming, you ought to get crops if crops are to be gotten.

You cut out all queen-cells May 24, and it seems in all fairness that those

BEE-KEEPING FOR WOMEN

Conducted by MISS EMMA M. WILSON, Marengo, Ill.

The Value of Poplar Trees as Honey-Producers

I am just taking renewed interest in bees and honey, and want to ask a few questions: What is considered to be the honey-production of our old, native poplar trees, and what is the quality of the honey? Can you tell me of any book that tells of the honey-producing qualities of our trees and plants, also any individual I might write to for information on the subject?

Can you give me the address of Prof. A. J. Cook. I have several large, old poplar trees that I have been offered a price, but have been keeping them for my bees. I would be glad to know what others, with more experience, think of it.

Duluth, Ga. (MRS.) H. STRICKLAND.

P. S.—Did you ever hear of bees committing suicide from the poplar tree, or in any other way?

I do not know of any book that gives very full information as to different honey-plants. In the leading text-books on bee-keeping a list of such plants may be found, but nothing very definite as to the value of each one. In fact, it would be a very difficult thing to say just how much was the honey value of any given plant. In a general way we know something about what are good honey-plants, as, for instance, white clover. But no one can say how much honey can be obtained from an acre of white clover. Even if we knew exactly how much honey was had from a certain acre, that might be much less or much more than from some other

acre. Moreover, on precisely the same ground, and apparently the same stand of plants, the yield this year might be quite different from other years.

Now after all this has been said, it may be that some one who has had experience with poplar as a honey-plant, can give us some information that will be of value. In the meantime, subject to correction, it may be no harm to say what is the impression about poplar honey in this region where poplar does not grow. That is, that poplar yields a good quantity of somewhat dark honey of flavor that is approved where it grows, but not liked so well elsewhere.

As to whether it would be to your interest to sell your trees to be cut for the timber, or to preserve them for your bees, much depends upon conditions. It must be taken into account that if cut as timber you have their value once for all; while as honey-yielders their value is continuous. If there are no other poplars within 2 or 3 miles, and no other plants that yield nectar at the same time as poplar, then it is likely that it would not be advisable to sell them. On the other hand, if poplars are reasonably plenty within 2 or 3 miles, or if there are plenty of other honey-plants that yield at the same time as poplar, then it may be to your advantage to sell the trees.

Mr. J. J. Wilder, of Cordele, Ga., is

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bees ought not to have swarmed so soon as 9 days later. It is to be feared that you have rather a "swarmy" strain of bees. We generally count that once in 10 days is often enough to go through to kill queen-cells. And not often will a swarm issue inside of 10 days so early in the season. Later in the season, and especially if they have been previously thwarted, they may swarm within 5 days, 2 days, or even 1 day after the cutting out of the cells. So you see that cutting out queen-cells can by no means be relied upon to prevent swarming. But it generally delays it, and sometimes prevents it entirely. You may be interested in reading about it in Dr. Miller's "Fifty Years Among the Bees."

That red deposit in the bottom of the cells was likely pollen, and not a matter of significance. Sometimes it happens that one colony will gather a certain kind of honey or pollen while another does not.

You might have done a good deal worse in the management of that swarm. Surely, you did well not to have it go off. You are disgusted that you can not discipline those bees. No doubt they are laughing in their sleeves at the way they have gotten ahead of you, but no doubt they'll have their discipline in good time. Uniting in the fall is all right, but you might

have taken a little different course. Next time, set the swarm close by the old hive, and then a week later move the old hive to a new location. That will not be much different from what you have done, but it will prevent after-swarms, and it will throw all the field bees into the swarm on the old stand, and then the swarm ought to do good super work.

You might do another way: Have your queen clipped, and when the swarm issues catch the queen and cage her. Cut out all queen-cells and leave the queen caged in the hive. Ten days later destroy all queen-cells again, and liberate the queen. Generally that will be the end of all swarming, but not always.

Here's another way that will put an end to further swarming: When the swarm issues, kill or remove the old queen and destroy all queen-cells but one, of course leaving the largest and best looking cell. Then you need pay no more attention to that colony except to attend to its supers, and to see that the young queen is laying perhaps 2 weeks later. If not, she has probably been lost on her bridal trip, and a laying queen must be furnished to the colony. You will see that by either of these two ways there will be no increase in the number of colonies.

country it has been good for years. Sweet clover abounds, and alfalfa comes along to help. Sweet clover is considered the honey source here, however. Mrs. Holly, who has the largest apiary in the county, and lives in McElmo Canon, 45 miles from the railroad and 30 miles from Cortez, says that her bees swarm three times each year, most of the swarms going to the hills. Most of her bees are in box-hives, and the supers are put on top. The honey is cut out of the sections and sold in bulk to the Indians and others at from 5 to 10 cents a pound. The sections are used over and over again year after year. There are probably 150 bee-keepers in the county, and not more than a dozen of them have bees in movable-comb hives. There is not another county in the State where bee-keeping, as a whole, is at a lower ebb, and where the chances for success are better. But the lack of cheap transportation is holding this country back. Many can not afford good hives, and there is no dealer in the county who carries a supply of goods in stock.

Bees have been yielding 100 pounds of comb honey to the hive where taken care of, but foul brood has wiped out from 80 to 90 percent of the bees during the last 3 years. When Mrs. A. J. Barber was inspector she kept the disease down. When she died no other inspector was appointed, and conditions have become so bad that strenuous efforts must be made to clean things up. Mr. G. D. Taylor is now inspector, and as he is very much interested in bee-keeping, and is anxious to keep his own bees clean, things will doubtless improve.

At the present time there are about 1500 colonies in the county. (This is a guess, but probably not far from the figure.) Bees abound in the rocks and cedars, and this will without doubt affect the foul brood situation considerably.

Land is about one-half what it is worth in more accessible parts of Colorado, but with improved transportation the price will rise. The people tell me that it is an easy country to live in, as poultry is easy to raise, garden stuff grows well, and sheep and cattle thrive throughout the winter. There are no severe winter storms such as we had in eastern Colorado the past winter.

Pork is found on every table. Everybody has fruit, but they think nobody wants to eat much of it. You know folks get into a rut. They drink coffee and let the grapes spoil. Now, nothing is more delicious than sweet grape juice. When my appetite does not crave grape juice, give me milk, but a large porportion of the farm folks feed the milk to the chickens, calves, cats, etc., and drink coffee that costs them 30 or 40 cents a pound, and they drink it black. When I drink coffee it is for the milk and sugar I can get into it.

Honey is very generally eaten in Montezuma county, you will find it oftener than corn syrup. It is on the tables at the hotels and restaurants, and the farmers make a point of buying a winter supply from some neighbor, if they have no bees of their own. Here is a county that produces a lot of honey, and the home demand takes it all, or nearly so. A good deal goes to

FAR WESTERN BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

Montezuma County Bee-Keeping

At the very southwest corner of Colorado, where it joins three other States, Arizona, New Mexico and Utah, lies Montezuma county, the ancient home of the Aztecs. Here are to be found the remains of the homes of the cliff dwellers, the oldest human habitations of the American continent.

A richer soil there is not in Colorado, and when I say it I have in mind all of the best sections of Colorado. Pears, apricots, prunes, peaches, plums, cherries, grapes of every kind, apples so highly colored that a Ben Davis looks like a Jonathan, grow to the highest perfection. Mr. Francis, living in McElmo Canon, had peaches weighing 1¾ pounds each last year. The buyers objected that the peaches were too large. He fattened his hogs by letting them run loose in his orchard, picking up the windfalls.

This county is quite a hog country, as corn grows well, making from 35 to 50 bushels to the acre. Alfalfa, of course, is one of the principal crops, and sugar beets will soon be largely grown, as there is to be a sugar factory in the district. Oats often go 100 bushels to the acre, and wheat has been and is being successfully raised on dry land to the tune of 30 bushels to the acre. The soil is a pinkish red, and is easily worked after the sage-brush and cedars are cleared off. The cedars are

found principally in the upper end of the valley, but sage-brush is everywhere. The usual way is to grub the sage-brush out with a grubbing hoe, and it costs from \$5 to \$10 an acre to do it.

This Montezuma country is well supplied with water, since a tunnel a mile long, with a fall of 60 feet, was made through the hills to let the water from the Dolores river into the valley. The tunnel is 7x9 feet, and carries water sufficient to irrigate 40,000 acres of land. As yet, less than 20,000 acres are under this irrigation system. There will be needed additional reservoirs before abundant crops can be assured through the dry seasons.

This is still a pioneer country, but good roads are the rule, and telephones and free rural deliveries reach every part of the county. The county seat (Cortez) is 14 miles from the railroad—a narrow-gauge road at that—and the fare is about 6 cents a mile. The fare to Denver is the same, or nearly the same, as from Denver to Chicago, and it takes as long to go from Cortez to Denver as from Denver to New York. The freight rates are scheduled at about the same ratio. It is doubtful whether the railroad pays at all, as a more expensive line to build and operate would be hard to find.

Montezuma county is destined to be a great fruit district, and as a bee-

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the mining camps of Rico, Telluride and Silverton.

Montezuma county has not a single specialist bee-keeper. Mr. G. D. Taylor has 30 colonies, a bunch of sheep, 30 acres of land, and is raising some alfalfa and potatoes. With the county inspection work he will be busy. Mr. Wilkerson is a farmer neighbor of Mr. Taylor's, and has about 35 colonies, all in good hives. Mr. Frank Taylor has about 45 colonies of bees, and his time is taken up principally with his ranch. Mrs. Taylor plans to take charge of the bees the coming year.

At Mancos, 20 miles from Cortez, the remnants of Mrs. A. J. Barber's apiaries are in the hands of T. W. Wattles. Foul brood has decimated the colonies until there are less than 20 left.

Mr. H. M. Barber lives about 4 miles from Mancos, and has some bees which he desires to increase. Mr. Barber is anxious for effective inspection and cleaning up. I met Mrs. Barber's son, and he said that his mother used to sell 20,000 pounds of honey nearly every year.

This is still a new country and hard to reach, but it is bound to come to the front for it is blessed with boundless latent possibilities.

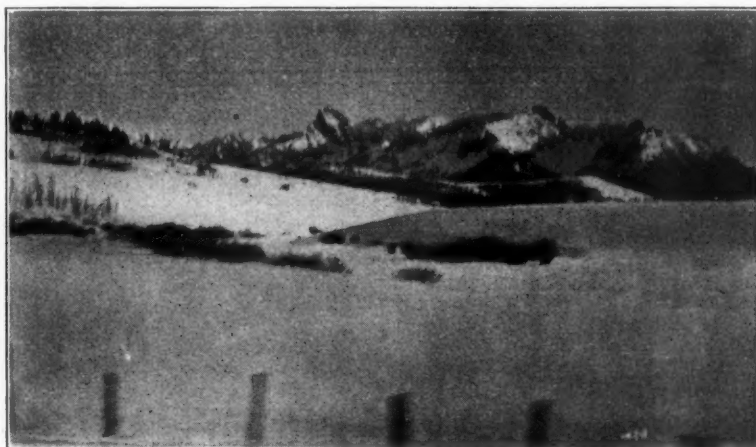
A need of Montezuma county is for a bee-keepers' institute, where the advantages of the movable-comb hive will be shown. Demonstrations in nailing up hives, frames, supers, putting up sections and starting sections and frames should be included in the program. The prevention of swarming will need explaining, and the grading and packing of honey should be taken up. If interest can be aroused, such a meeting will be held as soon as can be arranged.

The Montrose Meeting

Montrose county, in Colorado, is a comb-honey county. I do not know of a bee-man who extracts as a business. Delta county, on the north, has on the contrary, quite a number of extracted-honey men. The tendency, however, is strongly toward comb-honey production. Mr. R. W. Ensley, who owns and operates the largest number of colonies in Delta county, is changing from extracted-honey production to comb entirely. Some lesser bee-men are making the change more gradually.

The largest attendance at the Montrose meeting was about 50 on Friday evening, May 10. Six or 7 bee-men came from Delta county, and 3 from the eastern side of the mountains. The others were all from Montrose county. Mr. Frank Rauchfuss was expected to be present and talk on the application of the Colorado Grading Rules, but he did not get there, and we thrashed over the changes that were made in the rules last December.

Mr. S. J. Harris, of Olathe, who owns about 200 colonies, and produces comb honey, spoke on the "how" of producing the article, and when he finished speaking the meeting awakened up, asked questions, and discussed methods with such zeal that three or four were bidding for the recognition of the chairman at every opportunity. The



A SCENE IN COLORADO.

production of comb honey, at times, was lost sight of in discussing wintering, feeding, requeening, etc., but, of course, we have a broad subject in discussing comb-honey production.

Our meetings will be long remembered, if they are turned over to those present, and they feel that general discussion is the most valuable part of the convention.

The grading of comb honey, according to the new rules, was about the liveliest subject brought up. The No. 2 grade is the lowest grade recognized. Sections that weigh 10 ounces or more, but are fully capped except the outside row, subject to certain other restrictions that I will not mention here, may be put in this grade; also sections that weigh 12 ounces, with not more than 50 unsealed cells filled with honey. Several members thought that sections weighing 12 ounces, where half of one side was uncapped, but filled with honey, should be admitted to this grade. Others even thought if one whole side was unsealed that it should be No. 2 if the section was heavy. Mr. J. R. Miller stood out for the rules as they now are, while Mr. J. C. Matthews held that the rules would render unmarketable a large amount of salable honey for which the rules should make a place.

I consider the rules as very fair on the whole, and think that sections, even though filled, but half unsealed, are cull honey, and should not be recognized in the grades. This does not, however, prevent their sale as cull stock, and it is probable that some buyers may be glad to get this stock at a price that will equal its worth. It is not best to include such stock in the grades, for we do not want to build our reputation on such honey. The point of Mr. Matthews' argument was that he wanted to find a market for this honey, as he did in the past. I do not see where the new rules will necessarily hinder any in this.

I shall have more to say about the grading rules a little later.

At the evening session the writer read a paper on "Foul Brood Legislation," and Hon. O. C. Skinner followed with some valuable suggestions on how to get desired legislation, what to ask for and what to expect in the way of

obstacles. Mr. Skinner is a bee-keeper, owning several hundred colonies, but operating only about 20 at his home place. Mr. Skinner, as a member of the Colorado Legislature, introduced the foul brood bill which successfully passed the legislature. He favors the insertion of a clause prohibiting the keeping of bees in box-hives.

Mr. Robert E. Foster, Bee-Inspector for Montrose county, gave an excellent talk on the treatment of foul brood. He quickly warmed up to his theme, and spoke right out of the heart experience. (For the enlightenment of those who go much on family ties, I will now say that Mr. Foster and I have been unable to find any. But we call each other by first names, which is just as good.)

THE BANQUET.

The Entertainment Committee had need of our presence over at a restaurant at 10:30 p.m., where we talked bees as much as we could. Some good stories were told. One member of the Montrose association told a rich one on his wife. It seems the lady in this case had been told that a queen emitted a delicate aroma upon being crushed, something similar to a broken vial containing attar of roses, as it were. So Mr. So-and-So gave her a young queen one day—when queens were more numerous than needful—and she pinched the young maiden bee's head, raised the quivering body to her nose for the enjoyment of a delightful perfume, the queen inadvertently got too close to the nose in question, and the sting was there firmly and securely deposited. Now, ladies, how would you like to have your husbands tell a story like this on you when you were present?

We can not waste time telling what we had to eat, but we were there over an hour, and the 40 or more who attended left rather reluctantly. At all times when the meetings were not in progress, little groups of bee-men would be seen standing around on the corners, talking "shop."

Saturday morning, filling hives before the honey-flow came in for discussion, and the Alexander plan was winner by a decision of about 10 to nothing. Every one who had followed the plan spoke very highly of it. The loss of bees in Montrose county has been

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heavy, from 25 to 50 percent, and the filling up of empty hives is a vital question. The difficulty now is to get the hives full enough to use the Alexander method with success.

The morning session, Saturday, was expected to be the last, but an hour and a half was found in the afternoon before train time, and Mr. Paul Hutton, of Somerset, was allowed to tell

of his tin section, carton, and Sanitary Honey Package. The bee-men, as a rule, agree that he has an innovation that, when perfected, will revolutionize the methods of production and sale of comb honey.

A better bee-meeting it has not been my pleasure to attend for many a moon. Many such meetings for "Magnanimous Montrose."

honey for winter and spring stores. Or a lot of increase could be made artificially during its bloom by most any of the methods, as the weather conditions are ideal at that time.

Quieting the Bees

I have been troubled but little with robbing, but sometimes my home apiary, where I pack the honey, has been in great turmoil from some one leaving a comb of honey exposed, or, perhaps, by the smell of the water in which we washed our hands smeared with honey, etc. Then the bees storm the packing-house and get in in various ways. Those on the outside are a great annoyance, clustering on the wire-gauze of the openings of the building, wherever they think they can effect an entrance.

When I become aware of this condition, I set out a lot of supers containing combs from which the honey has just been extracted. Of course, they take to this at once. What a roar they make and what a tumult!

Every fielder is there, and sometimes it seems that all the bees for miles around are there for their share of the spoil. What a time they have for an hour or so, when they will all disperse apparently disgusted, and resolved not to return for another such fooling.

The bees will not tear down the combs, but clean them up nicely.

Making Increase Economically

Making increase and not interfering with the honey crop, or having to feed, is a difficult problem. But it can be done in the following manner in localities where we have two or more honey-flows with several weeks between, as is the case in most sections of Dixie:

I remove all surplus honey as quickly as possible after each flow, for it grades better than if removed later. And as I make my last round I prepare to make the increase at all apiaries where I desire it. All colonies that are very strong with considerable honey in the brood-nest are marked, and 2 or 3 of the very strongest are divided into two equal parts as nearly as possible, one part left on the old stand and the other placed on a new one.

On the ninth day after each apiary has been thus divided, I return and remove all the queen-cells the queenless divisions have built except one or two cells to each hive; which are left for their requeening, and place them in cell-protectors. Then with cover, bottom, hive-body and frames containing full sheets of foundation, or ready-built combs, I go to one of the marked hives, remove the supers and lift out the frame on the outside, look it over carefully for the queen and set it in the new hive next to one side, and lift out the next frame in like manner, and so on until 4 frames have been lifted out and set in the new hive. During this operation the bees must not be smoked any more than necessary so that the old bees will be lifted out on the frames. If I find the queen and put her in the new hive, I set it on the new stand; if not, I set the new hive on the old stand and give it a queen-cell

BEE-KEEPING IN DIXIE~



Conducted by J. J. WILDER, Cordele, Ga.

Information on Bee-Culture

MR. WILDER:—You have been referred to me as one who could give me information on bee-culture. I am deeply interested, and have a few colonies of bees to start with, and I want to increase some, and keep increasing as long as I can keep them in good condition, and make them pay.

Crawfordsville, Ga. W. F. GRIFFITH.

Information on bee-culture is obtained in two different ways, by practice or direct experience with bees, and by theory, purchasing and studying literature on bee-culture. But a combination of both practice and theory, is by far the best. You will learn faster, and better results will follow, even from the very beginning. You already have a start in bees, and the next step should be a study of good literature on the subject. The more of this the better.

If your bees are in modern hives, and you have the necessary conveniences, you should first read up on the manipulation of frames or the handling of bees, at once looking through every colony in your apiary. See that the proper conditions exist, supply their needs, and thus keep them in good shape. Bee-keeping will become as familiar to you as your regular line of business; that is, you will fully understand what to do and how to do it.

But if your bees are in *box-hives* and *log-gums*, you had better post yourself on the "transferring of bees," and get the hives and necessary supplies. When the next honey-flow is on in your locality, transfer by some method described in the books into modern hives. By all means follow instructions as nearly as you can and learn at the other man's expense. Yes, and you might learn something by visiting some progressive and experienced bee-keepers, and seeing how they go about certain work. Then do likewise.

More Subscribers

Dixie bee-keepers, the number of subscribers for the American Bee Journal within our bounds is far from what it should be for the greatest good. It is the best bee-publication for us when it comes to the practical side of our industry, that of the management of bees for the greatest amount of profit. It has been my greatest source of information in my bee-keeping career.

Urge your neighbors to take it. It

will pay them tenfold its cost, and they will never regret the dollar spent for it. If the bee-papers were more universally read, brood diseases would be soon stamped out and the industry would thrive much more.

Is Bee-Keeping a Desirable Pursuit?

The judge of our Circuit Court turns his son over to us as soon as school is over, with this message: "Take my boy and teach him as much of your business as you can, and pay him something if he is worth anything to you. I had rather he would learn bee-keeping and follow it as an occupation than any other business in the world."

The outside world is awakened to the great possibilities of our industry, and this is not confined to those of the humble callings in life. This means something for the future of our industry.

"My bees have done well, and I am more than pleased with results," is the most common expression from those interested.

Bitter-weed Honey

DEAR MR. WILDER:—Mr. W. R. Cunningham, on page 150 of the American Bee Journal, refers to bitter-weed honey, and I have that to contend with here. I use the Massie hive with 9 frames 15 $\frac{3}{4}$ x7 $\frac{1}{4}$ inches. Now, do you think it would be wise, as soon as the bitter-weed begins blooming, to remove the comb-honey supers and put another hive-body on each hive? This would give them ample room the rest of the season, and next spring they would be stronger and do more work in the supers, and be less inclined to swarm.

M. P. HUGHES, B.S., M.D.
Gadsden, Ala.

The Massie hive containing frames the dimensions you give is not large enough for our average location, especially if the queens are very prolific, and it would be a wise thing to add another such brood-chamber and let the bees establish themselves well in the two. This, as you say, would surely give each a larger force of bees next spring and reduce swarming. There are many bee-keepers troubled not a little with the honey from the bitter-weed. I think if I had it to contend with, that as soon as it began blooming I would remove all comb-honey supers if I ran for comb honey; if not, I would extract the good honey, even from the brood-chamber, and let the bees fill up with the bitter-weed

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and half of the supers and bees. I place the old hive on the new stand with the remaining supers.

In 5 or 6 days I return and examine all divisions, and remove the cell-protectors and insert a comb or so in the center of the brood-nest of the divisions that have queens, if they need more comb. Then 2 weeks later I return and insert more comb in the brood-nest of the divisions which contain the old queens. I remove some sealed brood from the stronger ones and give to the weaker divisions. By this time the new divisions have laying queens. About 2 weeks later I again return and place the remaining empty combs in the brood-nest, and again

add sealed brood to the weaker divisions. With only a little honey coming in it may be necessary to equalize stores somewhat. It is then only a week or so before the next honey-flow. As soon as it has begun I return and again give the weaker divisions more sealed brood from the stronger colonies.

About all the honey has been consumed in this great increase, but everything is ideal for the honey harvest, and supers are placed on in sufficient numbers for it. There is no swarming during this flow, and it will not be necessary to disturb the bees any more. The greatest amount of honey possible will be harvested.

for reply. While I can get the stamps exchanged, yet when I receive the regular stamped envelopes with the parties name and address written on, the envelope and stamp are wasted.

In regard to my address, much mail comes addressed to Mount Joy, Canada. Suppose I sent a letter to Hamilton, U. S., what would happen? Chances are that "Hamilton" is duplicated in several States in the post-office directory, just the same as many post-offices are of the same name in different provinces of Canada. Address letters to Mount Joy, Ontario, Canada.

The Carniolan Bees

Many are praising the qualities of the Carniolan bees, especially those bee-keepers who are situated where they have a very early flow of honey. The common difficulty is in having colonies ready for the flow, especially after a cold, late spring. From my personal experience I have no hesitation in saying that a good strain of Carniolans is the best solution of this problem, as given a big brood-nest and abundance of stores to draw from, weather conditions make little difference with this race of bees. In the early spring, brood will be reared at an enormous rate. One friend in Idaho is afraid that they will swarm too much to be of practical use—this idea gleaned from what others have told him. If you use a single brood-chamber 8-frame Langstroth hive, they will certainly give trouble, but with a brood-nest large enough, and lots of storing room, everything will be lovely. By large enough, I mean not less than 10-frame Jumbo, or if the 10-frame Langstroth is used, two bodies can be allowed until the opening of the main harvest, and then if very strong, as they are apt to be, some of the brood should be taken away from the lower story, and foundation or empty combs given before the queen is restricted to the one set of combs.

No Time to "Boil it Down"

Friend Tyrrell gives advice in the June Bee-Keepers' Review as to how correspondents should "boil down" their contributions for the journals. First write the full account, giving all details, etc., then go over with a pencil and mark out all not really necessary, and rewrite the story much simplified and much shorter than the original. It sounds all right friend Tyrrell, but that is absolutely impossible for this scribbler, because sometimes I am *too busy*, and at all times I am *too lazy* to do so much work. I simply sit down to the typewriter, I have learned to play on a bit, and without a single note to guide me, rattle off a lot of stuff to puzzle friend Dadant and others. It "goes" that way every time. This confession will, no doubt, serve to make the readers exercise charity when they scan over the stuff I send in; they will be willing to make allowance for much I say.

[Friend Byer, we would rather accept a lot of "stuff" written by a practical bee-keeper sitting on a bee-hive

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Moving a Car of Bees "Nerve Racking"

A few weeks ago the writer had his first experience in moving a carload of bees, and he is now quite ready to agree with all who have been on the job, that it is a "nerve racking" business. The car was loaded at night, and the bees had to stay on the siding until the next day at 3 in the afternoon. The day (May 23) was the only real hot one we have had this year, the mercury going up to nearly 90 degrees, and it was surprising what a heat was generated in that car while standing there. Each colony had a full depth empty super on top of the hive, screened over with wire-netting.

The abundance of ventilation was all that saved the bees. During the day I used about 20 gallons of water on them, and I was thankful for the wet weather we had had the day before. I ran out of water, but was able to replenish my can from the ditches when the train stopped at a station.

From 7 in the evening until 3 in the morning my car was banged around the West Toronto yards by about a dozen different switch engines. At first, I was a bit afraid of results. However, I found that an extra hard jolt did not harm them, so after that I did not worry. Leaving at 3 a.m. we were 12 hours going less than 100 miles. We had 56 cars with but one engine, and often had to wait to let other trains pass. Arriving at our destination at 3 p.m., we found that a telegram sent had gone astray. We had to hustle for some rig to unload the bees. In the whole community there was not a spring wagon. At last a flat hay-rack on a heavy lumber wagon was secured, and the bees were moved on that over a road that I would have been afraid of at any other time even with a good spring wagon.

However, "all is well that ends well," and with all the banging the bees received on the car, not a hive budged an inch, and after the moving over the rocks with a heavy wagon, not a single comb was broken. I was afraid that

some brood would die, owing to the hot weather encountered on the moving trip, but no dead brood was in evidence, and there was not a pint of dead bees in the whole outfit when the bees were liberated.

For two nights I had no sleep. The night we unloaded the bees it was after 12 when we finished the job, and I was so tired that I could not sleep when I got the chance. Yes, moving bees is a "nerve-racking" business, but there is a fascination about it, and at a future date I hope to give more particulars about my trip for the benefit of some other "greenhorn" who may have work of that nature.

Advantage of Clipping Queens' Wings

Owing to the continued wet weather during the spring, and the fact that I had to move the bees referred to above, as well as spend a week in the East helping my son at the New Dublin yard, for the first time in a long while I found it impossible to get all my queens clipped—not half of them were attended to. I had to rush supers on them before I left, to keep down swarming, and when I got home fruit-bloom was over and the hives could not be opened as no honey was coming in. If we get a flow of honey, and there should be much swarming, certainly I will have a picnic with only about half of the queens clipped. For 3 years past, while all the queens have been clipped, we have had almost no swarming, so it would have made little difference whether they were clipped or not. This year may tell a different story.

Canada a Large Country

Canada is not likely to ever be part of the United States, certainly it is not at present. Ontario is a province of Canada in the same way that Illinois is a State of the Union. This information is for the benefit of a great number of friends over the line who write me and enclose United States stamps

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reciting his experience, than the most polished article by a literary genius. As to the clipping out of unnecessary words, trust us to do that for you. If you look closely, you may discover that we have done this already.—EDITOR.]

Crop Rather Short and Late

What a contrast in weather conditions of the May just passed as compared with the May of 1911. Last year it was hot, and the ground as dry as a bone during all the period referred to; in fact, nearly all through June and July as well. This year cool and rainy—rainy for days at a time—and the bees had but about one day in six to get out to the willow and fruit blossoms. At this writing, June 11, there are signs of dry weather, and the ground is beginning to bake hard where the soil is of a heavy clay loam.

The honey season, if we have one, will be late, as the clover is just beginning to show a blossom here and there. I should say that, on the whole, the rainy weather of May has improved conditions for the bee-keeper, as the clover has picked up considerably; as for this

spring's seeding it is coming on finely, which condition augurs well for next year as a great clover year. Bees are in good shape, generally speaking, although there are some isolated cases where heavy losses have occurred.

The Demaree Plan—One Fault

The Demaree plan of keeping down swarming is mentioned in the American Bee Journal for June. It will work well except for one difficulty hard to overcome in most sections. While many claim to have all the old honey out of the brood-nest by the time clover opens, that is a condition I have never yet seen in any large apiary. The result is, especially if you use a deep frame—that a considerable quantity of dandelion or other dark honey will be in the brood-combs that are raised above the queen-excluder, and this will darken the clover honey when extracted together. Where color is no object, the Demaree plan is the surest and simplest plan I know of to control swarming. But *always* leave at least one comb of brood below, as with full sheets of foundation, the bees may neglect the lower chamber altogether, the queen may disappear, and the colony be ruined.

couraged under the slightest provocation.

The secret of success in up-to-date bee-keeping is not found in simply binding one's self down to every day hard toil the year around. The men who are the most successful in their business ventures are, as a general rule, those who get out frequently and "rub up against" and get acquainted with "doings" outside of their own. It gives them new ideas, has a resting effect, and helps to refreshen and brighten a person's mind. The bee-keeper, therefore, should plan his work so he can get out into the world occasionally.

A Strong Point in Favor of Honey

When advertising honey it is important to bring all factors to the front that have a strong bearing on the economy of using it in place of other commodities, especially syrups and the numerous preserves and jelly preparations on the market. To make honey go with all these competitors selling at what seems to the consumer a much less price, it is necessary to show why the price of honey is apparently higher, but actually lower in the end. How are we to do it?

Of course, we have harped on the more nutritive qualities of honey, its purity and healthfulness, etc., but, although that is excellent education, there is one point that has been seriously overlooked which should be held constantly to the front. It is that, compared with other sweets, such as syrups and the various fruit preserves and jellies, honey will go much farther.

To convince a customer a tumbler full of honey should be placed side by side with the same quantity of any of the other preparations, and notice taken of the number of slices of bread that may be spread with each.

Since honey is so much sweeter and "richer," it is not necessary to use so much of it to get the proper "taste" with whatever food it may be used. It simply goes farther, and that should be advertised.

SOUTHERN



BEEDOM~

Conducted by LOUIS H. SCHOLT, New Braunfels, Tex.

How Many Colonies for a Living?

Of the many questions propounded to us this is one of the most common, and it is a difficult one to answer. There is so much that must be considered, so much that hinges on the subject as to how many colonies are necessary to afford a living for their owner.

While one person may be possessed of sufficient executive ability to enable him to manage a thousand colonies very easily, there are many who can not manage more than a few hundred. Upon this then depends, to some extent, the kind of a living one may expect to make from bee-keeping.

It is well to remember, however, that the mere matter of being able to look after large numbers of colonies is not the only factor that must be considered. There are bee-keepers who make more profit from a less number of colonies by following intensive bee-keeping. The bee-keeper who manages larger numbers, in a manner by which much loss through waste is allowed, may not make profits equal to the intensive bee-keeper with far less colonies.

He who has started right, with only a few colonies of bees, and has gradually worked himself into the business, will find that he can manage just a few more colonies each year, thus increasing his number to many hundreds, if his skill permits it. Such a one would be fully able to look after 500 colonies

properly, with some additional help during the busy season, of course.

Generally speaking, we may place the average yield at \$5 per colony, or \$2500. Deducting about 25 percent as an approximate expense of labor and cost of production, interest on capital invested, and depreciation from wear of supplies and appliances, the net income would be about \$1875. These are only estimated figures, and due allowance must be made for the location and the forage in reach of the bees, as well as the favorableness of the year.

Numerous factors have a bearing on the honey yield in any locality, such as weather conditions, precipitation or rainfall. Atmospheric conditions in some instances may not be just right during the blooming period of the flora from which the honey yield is expected. Taking all these things into consideration, a sufficient conclusion may be drawn as to how many colonies may be kept for a living.

Go Out and Visit, or Travel

Did it ever occur to you that a person who stays continually at home and does not go out into the world, generally becomes more easily dissatisfied with his business, yes, even with himself and his surroundings? A person constantly "pegging away" at home, without a frequent change to rouse him up, becomes narrow in his views, "sot in his ways," and is easily dis-

Can't Do Without the Bee Journal.

Gentlemen:—Enclosed you will find my renewal for another year to the "Old Reliable." I simply cannot do without your paper, and I believe if I could not get it I would certainly have to give up keeping bees, so closely is it linked with my bee-keeping life. You can certainly count on me for life, as I get more pleasure and profit out of a single number of your paper than a whole year costs.

WALTER E. ATKINSON.
Baltimore Co., Md., Sept. 14, 1910.

Souvenir Bee Postal Cards

We have 4 Souvenir Postal Cards of interest to bee-keepers. No. 1 is a Teddy Bear card, with stanza of poetry, a straw bee-hive, a jar and section of honey, etc. It is quite sentimental. No. 2 has the words and music of the song, "The Bee-Keeper's Lullaby;" No. 3, the words and music of "Buckwheat Cakes and Honey;" and No. 4, the words and music of "The Humming of the Bees." We send these cards, postpaid, as follows: 4 cards for 10 cents, 10 cards for 20 cents; or 10 cards with the American Bee Journal one year for \$1.10. Send all orders to the office of the American Bee Journal.



MEMBERS IN ATTENDANCE AT THE ANNUAL MEETING OF THE CALIFORNIA BEEKEEPERS' ASSOCIATION

CONTRIBUTED ARTICLES

Amount of Honey Used by a Colony in a Year

BY ADRIAN GETAZ.

Adrian Getaz says that where the winters are cold a colony needs for its annual consumption about 200 pounds of honey. . . . It would be of interest to know just how much of that estimate is based on reliable data and how much on guessing.—*American Bee Journal*, Vol. LI, No. 12, page 357.

The quantity of honey consumed by a colony must vary considerably according to the strength of the colony, the climate, the nature of the flows and other conditions. Figures given can be only approximate averages. The amount required must fulfill three objects:

1. Support the life of the bees. This means not only what is necessary to keep them from starving, but also enough to keep the temperature of the hive up to the proper point and to enable the bees to exert the necessary muscular efforts to accomplish their work.

2. The production of wax. The wax is secreted by the organs of the bees at the expense of the honey they eat in about the same way as the milk of a cow is produced at the expense of the food she consumes.

3. Feed the brood, or, more properly speaking, find the amount of honey necessary to prepare their food, whether this is in the form of secretion from the salivary glands of the bees or a partially digested mixture of honey and pollen. We will now consider these three subjects separately.

KEEPING UP LIFE.

How much honey will bees consume

daily merely to keep alive and also keep up the temperature of the hive and do their work?

On that subject I have only one experiment to quote: A French apiculturist, Mr. Harroult (in 1906), kept some bees in an observatory hive in order to solve that problem. They had no queen, and, therefore, no brood to feed, and they were not given enough food to induce wax secretion. The temperature of the room was from 60 to 64 degrees Fahr., during the day, and never below 48 during the night. The daily consumption for each bee was an average of one-fifteenth of her weight. This would be one-third of a pound for a colony of 20,000 bees.

But these bees were inactive. Furthermore, not having any brood they did not try to keep the hive at such a high temperature as is required for brood-rearing. The room was quite warm. For these reasons they must have consumed much less than they would under normal circumstances. The one-third of a pound should be raised at least to one-half.

WAX-PRODUCTION.

Our next inquiry is, how much honey does a colony consume to produce the wax necessary for their use, and incidentally how much honey do they consume to produce one pound of wax?

That last question has been answered in all sorts of ways, varying from 2 to 30 pounds of honey for one pound of wax.

One or two points have to be made clear before going further: Given 2 colonies, A and B, A is furnished all the combs needed, and B has to build

its combs. Suppose a very heavy honey-flow starts suddenly, colony A will be able to store at once all it can gather, perhaps 5, 6, or even 10 pounds a day. Colony B can not gather anything at the start because there is no room to put it. It takes at least two days to start wax production, and two or three more to build enough comb to speak of. Under such circumstances A may, at the end of a week or so, have gathered 30 pounds of honey for each pound of comb that B has built. But it would be absurd to say that B has consumed 30 pounds of honey to produce one of wax.

Most of our leading writers have quoted Huber, Milne-Edwards and Dumas in support of the ratio between honey and wax they give. But that is a blunder. All that Huber and Milne-Edwards and Dumas tried to prove, and did prove, is that the wax is the product of a transformation of the honey eaten by the bees in the same way as milk is a transformation of the food eaten by the cow, and, furthermore, that pollen has nothing to do with wax-production.

Several attempts have been made to solve the problem by feeding confined bees and weighing both the honey fed and the wax obtained. The results vary between 5 and 15 pounds of honey to one of wax; perhaps more, I have not all the details. As far as I know, most of the experiments were more or less defective—too few bees were used. No attention was paid to the temperature of the room where they were kept, and yet this has an important influence on the results obtained.

No queen was given. Undoubtedly a queen even caged would have encouraged the bees and caused them to work more earnestly. No attempt was made to discriminate between the part of honey consumed that went to keep the bees alive or to keep the temperature at the proper point, and to that which was really transformed into wax. Another point which has so far en-

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NATIONAL BEE-KEEPERS' ASSOCIATION HELD AT LOS ANGELES, FEB. 6 TO 8, 1912.

tirely escaped attention, is the age of the bees employed. I may be mistaken, but I think that while the young bees might consume all the honey they could and transform it into wax, the old ones would merely content themselves with just enough to keep alive.

Even if the experiments were well conducted, and I think some of them may have been, the results obtained under such conditions can not be applied to bees working under normal conditions. So we may as well dismiss them entirely, once for all.

DIRECT OBSERVATIONS.

A few years ago a French apiculturist, Sylviac, thought a swarm just hived could furnish the solution of the problem. It is assumed that the bees composing the swarm fill themselves with honey. As the size of the honey-sac of the bees is known, and the weight of the swarm will give the number of bees, at least near enough for practical purposes, the weight of the honey held by the swarm can be easily ascertained.

During the first three days after being hived, the bees will devote all their time to building comb, and but few will go to the field. It may be assumed that what they bring in may offset what they consume merely to support their life, and that the amount of honey brought out from the parent hive is entirely used to produce the wax obtained at the end of 3 days.

The following year the experiments were repeated extensively not only by Sylviac, but also by quite a number of leading apiarists. Leaving out a few exceptional cases, the results are from 2 to 6 pounds of honey to one of wax. Quite a discussion followed in regard to the reliability of figures thus obtained.

In 1885 Mr. M. M. Hasty (see *Gleaning in Bee Culture*, 1886) experimented on nearly the same line of observation. A swarm was hived, and 4 days after

the combs built were cut out and taken away. The operation was repeated at the end of 8 and 12 days and an average taken. In order to know the amount of honey consumed, the swarm was weighed every day, morning and night. The difference between the night and the following morning weights will give the consumption during the night. That between the morning and night of the same day will give the amount gathered less the consumption during the day. Assuming that this is the same as during the night, the sum of the two figures would give the amount gathered.

Subtracting from the total gathered in the 4 days, the weight of the honey and pollen found in the combs, and 2 ounces per day supposed necessary to keep the bees alive, the remainder was evidently used to produce the wax obtained. This gave very near 3 pounds of honey for one of wax, after some corrections were made on account of the weights obtained being of nectar and other details.

I think this 3-pound ratio is too small. Like all those who have made similar computations, Mr. Hasty took for granted that the consumption during the day is the same as that during the night. That is an error. In mid-summer the day is about twice as long as the night, and very likely the bees are more active in the daytime. This correction would raise the 3 pounds to about 4.

In the Argentine Republic a large amount of dark, inferior honey is harvested every year, and can not always be sold even at a very low price. Mr. Brunner, Superintendent of the Agricultural School of Cordoba, besides his own crop, buys all he can and feeds it to his bees in order to produce wax, as this sells readily and at a good price. The process is very simple. Feed the bees as much as they will take, and cut out the combs built every week, except,

of course, those having brood, or, rather, those in the brood-nest. He found that it takes 7 pounds of honey to produce one of wax. But these 7 pounds cover all that the bees consume for all purposes whatsoever. How much of this is used for the production of wax can not be told.

His memoir (*Apiculteur*, 1904) does not give any information on that point. By rights, what his bees may gather when there is a flow should be added. But bees bountifully fed and having their combs to build, do not bring in anything worth speaking of, except the pollen necessary for brood-rearing.

A few interesting items are brought out. Until mid-summer the bees readily build combs in the main body of the hive, on both sides of the brood-nest. Then they quit. But if a super is given with starters, they will resume work there and continue during the balance of the season. No explanation is offered.

None, or but very little wax, is produced when the temperature is below 61 degrees Fahr., or above 100 degrees. The most favorable temperature seems to be between 65 and 73 degrees. These figures refer to the outside temperature, not to that inside the hive.

The question may be yet viewed from another point. Chemical analysis shows that the amount of carbon contained in a pound of wax is $2\frac{1}{2}$ times as great as that contained in a pound of honey. It follows then that $2\frac{1}{2}$ pounds of honey, at the very least, must be consumed to furnish one pound of wax. In fact, it takes more. The chemical reactions that take place during the process require the expenditure of a certain amount of what scientists call *energy*. The production of energy in turn calls for the consumption of a certain amount of food of the carbohydrate class, which, so far as the bees are concerned, means honey.

(Concluded in the August issue.)

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Closing Up the Season When Working for Comb Honey

BY G. M. DOOLITTLE.

This is something which we hear very little about, and something on which very much of our success as apiarists depends. I have several times written on the importance of a thorough knowledge of our location, so that we may know about the time of blossoming of all the nectar-yielding flowers, especially those which give enough nectar to furnish a large surplus in a good season. This knowledge tells us we should put on our supers to take advantage of these honey-flows, and when we should give more room, if the supers are nearing completion during the middle of a clover flow, or at the commencement of the expected flow from basswood, or some other nectar-secreting source which is peculiar to our locality.

This is an important subject to the bee-keeper who expects success in his undertaking with the bees. But I consider a thorough knowledge of the "wind up" of the nectar yield of similar importance. Any man, or woman, is very poorly equipped in the matter of producing honey, especially section honey, who does not know when, in an average season, the main yield of nectar is to begin; and he will find himself in circumstances nearly, if not quite, as disastrous if he is unacquainted with the normal closing of the season.

Yet hundreds, if not thousands, of our would-be bee-keepers can not tell which of the flowers about them give the honey which they find in the sections. It is well to remember when in search of the "mean time" of our bloom from any source, that excessive rainfall, when coupled with a "cool wave," will retard this bloom very much, and a high temperature, with a period of drouth, greatly hastens it. Then, if we are located in a level country the nectar-flow will not last as long, as will be the case where we have low bottom-land, with rising hills or mountains within the range of flight of our bees. Our season will be prolonged to the utmost limit if much of this hillside faces in a northerly direction.

Now, having the knowledge of our field in mind, we can use it to great advantage if we apply it intelligently. Most of us have a clover yield of either white, alsike, alfalfa or sweet. We find out about the normal time of these clovers beginning to bloom, and put on our supers of sections in accordance. It is equally important that we know when this bloom will normally end. Then we will watch the temperature and rainfall during this period to see how much out of normal things are likely to be, governing ourselves accordingly.

Having given the required amount of section room up to the middle of a normal flow of nectar, it behooves us to be careful from that time on in giving additional supers. If the flow has been good up to this time, we are more likely to err by giving too much room than the other way, as we do not make due allowance for the dwindling of this flow toward the end. Up to the

middle of the flow our aim has been to give all the room the bees could occupy, but from now on, while we should have an eye to the same object, there is the added thought that great care should be given to producing at the close of the season the marketable product in the greatest amount, instead of little of such product with much in the unfinished state.

The easiest thing any thoughtless bee-keeper can do is to have the larger part of his product in an unfinished shape at the close of the honey season; for it is only natural, when we see the nice, white combs growing in the sections, with a good supply of nectar coming in from the fields, to think that the bees can occupy more, and still more room, thus doubling or trebling our product, forgetting that this yield may already be on the wane, and this added room be to our detriment through less work being done to finish the sections that are so nicely under way. But it is not always easy to decide in these matters.

I remember of giving an extra super to all of the colonies when the nectar yield was apparently at its height, only to have three-fourths of the sections in the whole apiary unfinished at the end of the season; while had none of these last supers been given, I would have had twice as much marketable honey with half the work and no worry. Having a good colony on scales so that we may have a record of the yield each day, gives a better idea of what may best be done. But in any outlook it is better to err on the side of retrenching, after the middle of our normal honey-flow, rather than on the side of expansion. Then, it is well not to bring supers of empty sections from the storage room while there are many on the hives in the apiary not worked in; far better to equalize those already there. Some colonies will have all their room occupied, while others have none, or from this to some nearing completion.

An exchange just now works to good advantage, and costs little if any more effort than does the bringing of more supers from the storage-room. Take the nearly completed super from the colony doing the best work, and exchange it with that on the colony having its super from one-fourth to one-half full, when both will bring their surplus, as a whole, to marketable shape at the close of the season.

This part was impressed upon me by running out of sections one year when the season was apparently at its best, though little past the center of the nectar yield from basswood. I knew that were I to order sections at that time, they must of necessity come too late to be of any use, so I inspected those on the hives, finding the supers as mentioned above. The thought of equalizing these sections in accordance with the work being done by each colony, rather than having so many supers on each hive, was thus impressed home upon me, and after the exchange was made, and the season ended, I had nearly every section completed, and with no injury to any colony, or any loss of surplus, as far as I could observe.

Since then, where I thought any col-

onies might need more room when nearing the close of the season, I have given this room by adding an empty super of sections filled with thin foundation above the supers already on. In this way should the secretion of nectar hold out beyond the normal, the bees would go up into this super, and if the season did not continue long enough for the completion of all, those which were unfinished were of much value for "baits" for use the next season in tempting the bees into the sections earlier than would otherwise be the case.

Borodino, N. Y.

What an Apiarian Department at the Illinois State University Could Do

BY E. J. BAXTER.

(From the Illinois Agriculturist, published by the Illinois College of Agriculture.)

There are a number of good reasons why an Apiarian Department should be established at the State University, under the supervision of the College of Agriculture. The pursuit of bee-keeping for the production of honey is one of the most profitable branches of agriculture, considering the amount of capital required, and the time necessarily employed for its successful management. There are thousands of tons of honey going to waste in this country, almost every year, for the lack of bees properly cared for to gather it. It is not only necessary to have bees to gather the honey, but these bees must be under the management of thoroughly competent and practical bee-keepers, who will know how to care for them from the beginning of the year to the close.

Bee keeping is not all profit and no work, as many imagine. The bees must be looked after, and their needs and requirements attended to like any other live-stock. The right thing must be done at the right time to insure the greatest success, otherwise bees are the most perishable and the most unprofitable live-stock that one can own. How is this knowledge to be gained? Very easily if there is an Apiarian Department established at the State University under the management of a thoroughly competent and practical bee-keeper.

Bee-keeping for profit is not an intricate study. It can easily be acquired by any one of average intelligence who will apply himself with a will and determination to master it under the guidance of a competent and practical instructor. Nor does it require much time and preparation to become sufficiently versed in bee-keeping to start an apiary of one's own on a small scale, provided the owner will keep on informing himself from every source possible. One or two seasons' preparation under a master such as I have referred to would be ample for a person who has developed a love for the pursuit and a desire to learn all about it that he can. And when I say one or two seasons, I do not mean that he must be at it every day. Far from it. Bees do not need attention every day

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in the year, as do the other farm stock.

In the latitude of the Illinois State University very little if anything can be done with the bees until the first warm days of April, and from then on until the last of November the work required will vary with the season and the condition of the weather. Some weeks they may require several inspections, again there may be many weeks when they will require little or no attention at all.

As to the profit: That will depend entirely upon the location, the weather, and the competency and practicability of the owner. In a reasonably good location in the State of Illinois, where there is plenty of white or alsike clover in the summer, and plenty of heartsease and Spanish needle in fall, one can reasonably expect to gather from nothing up to 150 pounds of extracted honey per colony; the quantity depending upon the weather conditions being normal. I have gathered as high as 250 pounds per colony, but this is the great exception, and must never be counted upon in Illinois. One hundred and fifty pounds of extracted honey at 7 cents per pound wholesale would equal \$10.50. Thus you see it is possible to make from nothing up to \$10.50 per colony in one season. My average net returns per colony, per year, for the past 10 years has been \$3.83, and yet I do not live in a very good location for the production of honey. I have seen other records of production that were considerably ahead of mine, so bee-keeping, intelligently followed, for the production of honey is a very profitable pursuit. This is especially true when you consider that one man can take care of 400 or 500 colonies of bees, doing nearly all of the work himself with the exception of extraction. Furthermore, after he has become well established there will be about one-half the year that he has nothing to do.

This, however, is not all of the profit there is in bee-keeping. Many of our fruits and farm crops *must* have cross fertilization in order to produce fruit and seed. For instance, take the Kieffer pear, all of our pistillate strawberries (and even some of our staminate ones), the wild goose and other plums, many of our cherries, many of our apples, and probably other fruits of which we know nothing as yet. When it comes to farm crops, the number that must be cross fertilized in order to bear or produce seed seems marvelous. It is sufficient to mention all of the clovers, buckwheat, melons, cucumbers, pumpkins and squashes. All of these must have cross pollination in order to produce a crop—and the honey-bee is the one means upon which we must rely to do the work. True, there are other insects that visit the flowers more or less regularly, and in more or less numbers season after season, and thereby help to accomplish this cross pollination.

I saw a statement, recently, by an eminent naturalist, who is making a study of this subject, in which he says that there are about 60 species of insects in this country, more or less widely distributed, that help to cross pollinate our flowers by their visits to them, but that the honey-bee does vastly more in this respect than the 59 species of other insects combined.

It would be the province of the Apiarian Department to study this subject as thoroughly and carefully as possible, and to make experiments. This cross pollination theory (if still only a theory) is one of the most vital ones bearing upon agriculture and horticulture today, and its thorough solution may mean the added profits of millions of dollars to our farmers and fruit-growers.

Another thing that we would expect the Apiarian Department to do would be to carefully and thoroughly study the various bee-diseases that now prevail or that may hereafter appear, especially the foul brood diseases that threaten to annihilate the bee-industry in so large a portion of our State, to find a preventative and a cure, if possible, for these most dreaded diseases, and finally to so thoroughly post and equip itself as to be able and competent to assume the administration of the State bee-inspection laws.

Nauvoo, Ill.

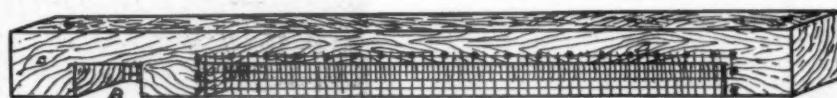
A Convenient Hive-Entrance

BY L. H. COBB.

The hive-entrance shown in the diagrams below is 12 inches long, 2 inches wide, and one inch thick. The dimensions can be varied to suit the conditions. A strip of ordinary screen-wire is tacked on each side. The openings for the bees' entrance are in opposite ends.



- Bottom View -



Side view showing opening and screen.

L. H. COBB'S ROBBER-PROOF HIVE-ENTRANCE.

This entrance has many uses, but it is pre-eminently a robber discourager. When robbers have to pass from one end of a hive-entrance to the other in a 2-inch passage, among enemies, they are slow to take the risks. The entrance also confuses them. If it becomes necessary to close up the hive entirely because the bees will not defend themselves, it can be done safely, as they will have ventilation, and the two screens prevent robbers from passing out the honey. You can keep them in as long as you choose.

A sheet of tin long enough to cover the screen on the inside, and a strip of wood for the outside should be provided to darken the screen when desired. It is well to do this when the entrance is first put on a nucleus or weak colony, so the field-bees can learn the route, and they will not be confused much when it is removed in case of robbers.

If it is desired to close the entrance

entirely, a piece of tin can be slipped behind the inside entrance, and a little block made to fit in the other entrance, as shown at A in the diagram. Blocks can be used for both openings, but it is more trouble to put the inside one in place, as the entrance has to be lifted.

To close for moving, place both blocks of wood in the entrances and fasten the whole firmly to the bottom-board with screws through the holes, shown in the diagram. Be sure the little blocks in the ends are thick enough so they will be held firmly when the entrance is screwed down tight. This method is so much more convenient than fastening wire over the entrance that this feature alone is worth all the trouble of making them.

Valley Falls, Kans.

Something About European Foul Brood and Its Treatment

BY DR. C. C. MILLER.

As has been said already in these columns, there is no need to be utterly discouraged if foul brood makes its appearance. But there is need to be wide awake and to be constantly on the watch for its first appearance, and then it is important to take action promptly. I can from personal experience speak only of European foul brood. With that variety I have an unpleasantly familiar acquaintance. And

I know that it would have made a big difference with me if I had taken it at the start. But I had foul brood two years before I knew it. The first case that occurred made me a little uneasy, but there was no way by which I could tell what the trouble was, for there was not at that time the great convenience of being able to send a sample of the suspected brood to Washington for diagnosis, and I shall always hold a grudge against Dr. Phillips that he did not take his position there sooner than he did.

It is said that European foul brood spreads with great rapidity in an apiary, with much greater rapidity than the American variety. It may be so, as a general rule; but in my case it took it two years to become a very serious matter. That was in 1909, and I think the principal cause of the rapid spread through the apiary at that time was the general exchanging of combs, so that it looked just a little as if I was

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trying to spread the disease all I could.

The thing to be on the lookout for is the yellowish brood. It is not yellow, but yellowish, yet that yellowish hue makes it so distinctly different from the pearly white of healthy brood that you will easily spot it if there be only a single cell in a hive, just as you would spot one black sheep in a big flock of white ones. In any case, if there is anything of a suspicious appearance about the brood, write to Dr. E. F. Phillips, Agricultural Department, Washington, D. C., for a box in which to send him a sample.

Besides the reputation for rapid spreading, European foul brood has the reputation of reappearing after apparent cure more than the American. That reputation seems to be confirmed in this locality. A number of cases have apparently yielded to treatment, and after a time the disease has shown up again. This with both the brushing and the dequeening method. Of course, I can not tell how that compares with American foul brood, for I have had none of that brand of the disease, and am not very anxious to have it, even for the pleasure of experimenting with it. And here is a good place to say by way of parenthesis, that there has been a grim sort of pleasure in experimenting with European foul brood, a pleasure very real in spite of its grimness. But as to the disease reappearing of its own accord, I can not speak with any degree of positiveness, for I can not tell in any case that the bees have not contracted the disease from some infected colony in the surrounding neighborhood.

Now as to choice of treatment between the shaking or McEvoy plan and the dequeening, or Alexander plan. The shaking plan is supposed to be equally efficacious in both kinds of foul brood, the dequeening only in European foul brood. Dr. Phillips is strongly opposed to the dequeening plan. I have great respect for the opinions of Dr. Phillips, and a strong friendship for the man. But I can not see this matter in the same light that he does. Very likely our different view-points have something to do with our views. Dr. Phillips is engaged in a very earnest crusade against the diseases that have already made such havoc, and that are sure to do still more havoc if left to their own course. He thinks that while the dequeening plan may be safe in the hands of those sufficiently skilled, it may not be so in the hands of others, and so it is better that all infected combs should be destroyed. I look upon it from the standpoint of one who has been through the fire, with the wish that others may be saved some of the scorching experience. Perhaps that does not very fairly express it, for I am sure that Dr. Phillips wants to save others just as much as I—possibly more. But here's the thing that comes up before me; it is the sight of those hundreds of empty frames out of which combs had been cut, good combs except for the disease, which combs were all melted up because I thought that was the only safe thing to do. I don't know enough about it to be entirely sure, but I think I might have been just as well off to have saved all those

combs, if I had known enough in the first place to have used the Alexander plan, or a modification of it. I suppose I may be told, "Even if you do so, others will not be so careful, and in the hands of the inexperienced the fooling with the disease and trying to save the combs will be the means of spreading European foul brood still more."

I don't doubt that looks like reasonable ground, but the very persons who hold it have taken different ground with regard to American foul brood. If it be the right thing to take such very conservative ground in the case of European, why not say, "The only safe way with American is to burn up bees, brood, combs, hives, everything?" And that is just what some think is the best thing, provided only a single colony is in question, but when it comes to a considerable number we are advised to save what can be saved; the bees, the unaffected brood, the wax that is in the combs, and the hives. In the case of European foul brood, if we can get a step farther, and save good combs without melting them into wax, why object so strenuously to that? Is it taking so much more risk than we take in saving all the other things?

But the saving of the combs is not the only difference in the two kinds of

saving of comb is the smaller part of the gain.

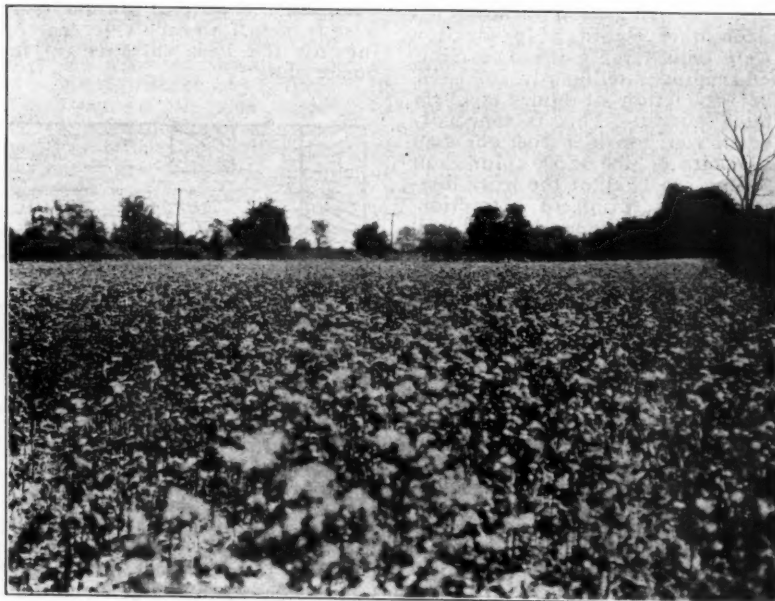
Taking all this into consideration, it seems to me the right thing that the whole truth should be known, and run the risk of carelessness in some cases, just as we run the risk of carelessness by recommending shaking in the case of American foul brood, rather than to insist that in all cases a funeral pyre must be made of the hive and everything in it.

Marengo, Ill.

Buckwheat Growing in the East

BY GRANT STANLEY.

Until a few years ago the bulk of the buckwheat crop was grown in a few favored localities. A few farmers outside of these districts, however, managed to grow about what was required for their own use. As a result, along with the increasing demand for this product, the price has been forced up to nearly that of wheat. But in the last few years farmers everywhere throughout this section of the country are manifesting nearly as much interest in the growing of buckwheat as they are in the growth of other crops.



A FIELD OF BUCKWHEAT IN BLOOM.

treatment. Take 2 colonies side by side, alike in all respects, each of them similarly affected by European foul brood. Treat the one by shaking, same as for American foul brood, and treat the other by leaving it without a laying queen for a certain time. Then compare the 2 colonies as to strength a month later. The latter will be much the stronger. The difference will be accentuated if the season be a very poor one, in some cases the shaken colony being only a remnant of its former self, sometimes so discouraged as to desert by swarming out. Indeed, I should say that the

Land that has been standing idle for years and permitted to run wild with briars and golden-rod is now being broken up and planted to buckwheat. No buckwheat was grown in the township in which the writer resides until 3 years ago, while, at present, one-third of the farmers are growing it.

This is certainly a good indication that the growth of buckwheat is to be materially increased, and that we need not feel any alarm about exhausting the supply from which we get the cakes that have been so beautifully set to song and story, and which grace our

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breakfast tables during the winter months.

Buckwheat is a profitable crop to the farmer. A farmer living some distance from me remarked recently that he purchased his farm among the hills 30 years ago, and that the payments were made by growing buckwheat. It does well on poor soil where most other crops would prove a failure. It grows too rank on river bottom soils, and is likely to go down and be difficult to harvest. New soils or clearings are admirably suited to growing it. Where land is not available for this crop the following will give satisfactory results: After harvesting the clover crop, plow the land and seed to buckwheat. When the buckwheat has been harvested and removed from the field, plow again and seed to rye. The following spring the land should again be plowed and put in corn. This will improve the land for the corn crop with the crop of buckwheat that much gain. Buckwheat is also a quick and reasonably sure crop, and this alone is sufficient to warrant more of it being planted.

Bee-keepers everywhere should encourage farmers to grow it, not alone for the honey the bees secure from it, but as a means of profit to the farmers themselves. Some years, although blooming in great profusion, it yields no nectar. In many localities smartweed also blooms abundantly during the period of buckwheat bloom, and very much of this honey is sold for buckwheat honey. It somewhat resembles it in color, and where the two are worked at the same time by the bees, the apiarist standing near the hives in the evening, in an effort to scent or locate the aroma, will not easily be able to note the difference.

Where bees are paying their visits in great numbers to the buckwheat during the early hours of the day, and the weather is sultry, we can feel certain their visits are not being made in vain. Nisbet, Pa.

The Bee-Keeper and Orchard-man

BY JOHN PASHEK.

I noticed in *Gleanings in Bee Culture*, March 15, 1912, page 167, an article written by C. Koppenhafer, where he shows his fine orchard and his bees among them, and explains the opposition of his neighbors to the bees.

Many of us have the same trouble. Some fruit-growers can not understand that we bee-keepers are their best friends. The bees do no harm to the fruit whatever, and the fruit-growers could not exist without the bee-keepers. But those who make these complaints are those who have no time to read the bee-papers and agricultural papers.

We raise fruit-trees around The Dalles by the hundreds of acres, fancy peaches, cherries, and everything else. Just now our orchards are in full bloom, and the bees are very busy on them. There is the largest fruit prospect here ever known. Our fruit-growers begin to understand that they must have more bees if they want to raise fine fruit. I am renting my bees out in

those large orchards during blooming, and getting good pay for it. I am selling books, bee-papers, and lecturing on bee-culture. I put articles in papers, and take every opportunity to urge fruit-growers to keep more bees on the farms.

I put all my section honey in nice cartons, with all directions and information on them, and it sells for 5 cents more per section than any other honey in the market.

The Dalles, Oreg., April 19.

Good Results from Hives With Immovable Combs

BY F. GREINER.

In one of the late numbers of the *Bee-Keepers' Review*, I find an article which treats of the almost forgotten box-hive, telling how to obtain good crops of honey without transferring to a movable-comb bee-hive. Box-hives are very rare here, but we find quite a few modern hives in small lots kept by farmers; the difficulty with most of them is that the combs in them are as immovable as those in the box-hives. I have had occasion to handle such for some friends. For the benefit of some of our brethren who may be "bothered" with either box-hives or movable-comb bee-hives of the above pattern, I will describe my method:

When the time has come when such colony begins to need more room, I add a brood-chamber full of foundation filled frames. With the box-hive this will have to be turned bottom up, when the prepared brood-chamber may be placed over it and things made reasonably tight. After this upper story full of foundation filled frames has been on the hive for a week, the foundation in the frames will usually be found partly drawn; possibly some eggs may

have been deposited in the new combs by the queen. I make no special examination except what I may see by a glance upon the top-bars and into the bee-spaces.

If a fair start has been made in the newly added brood-chamber, I proceed to drive the bees up into this upper chamber by pounding on the hive and also gently smoking them. I keep up the drumming for some 10 or 12 minutes. The object is to drive the larger part of the bees into the upper box. When I think this is accomplished, I quickly lift off the upper chamber, place it on a new bottom-board and give it the exact location of the old hive, while the latter is carried a few rods off and given a new location. In almost every case the queen will have gone up with the bulk of the bees, and is thus left on the old stand, while, of course, the old moved hive has no queen.

It will be found that the old hive is rather destitute of bees, but there will be enough left to take care of the young brood. The entrance should be contracted for a week or two and a ripe queen-cell must be given on the second or third day; or, better, a just-hatched virgin queen may be allowed to run in at the entrance. This old part of the colony will build up into a good swarm by fall, while the new part with the old queen will give the surplus honey, section honey of the best quality. Supers should be added from time to time as needed. There being no old combs in the hive the resulting section honey will be free from all travel stain. The season would have to be exceptionally good, and the flow continue until late in the fall, or no surplus could be expected from the part with the new queen, but the following season it will be in the best of shape to give another forced swarm, treating again as has been described.

Naples, N. Y.

DR. MILLER'S



ANSWERS-

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Are Swarms Caused by Foul Brood?—Leather-Colored Queens

I have 3 colonies of black German bees, which I think are affected with foul brood. I wintered 4 colonies in my cellar, and after I put them out this spring they did quite well for a time except that one colony was weak. About 2 weeks ago this colony swarmed out. I caught the queen and killed her, thinking they would return to the hive they came from, but although they did, they went away again and did not return. I saw then I had made a mistake. What do you think was the cause of their leaving like that at first? They seemed to have honey enough, too.

One of my neighbors has a number of colonies of Italian bees, and he tells me that he has a colony that every pleasant day will swarm out, and after a little while return to the hive. They light all around on the grass. Would it be all right to place a new hive with starters in place of the old hive? Do you think foul brood would cause this trouble? and how can I tell for sure whether I have foul brood? Something surely is the

trouble, as the larvae in over half of the cells die when quite young, and some of the cappings are sunken, although I sometimes find live larvae under the sunken cappings. The dead larvae are not ropy, and I can not detect any more odor than is common.

If I can save these 3 colonies I intend to requeen them this summer with Italian queens. Which kind do you recommend, the 3-banded or leather-colored? and when is the best time to requeen? NEW YORK

ANSWER.—It is not easy, without knowing fuller particulars, to say just what was the trouble. One would be inclined to think of a hunger swarm, since it occurred so early, but you say there was plenty of honey. It is possible that the old queen was lost in some way and a lot of young queens started. Then when you killed the first queen that issued, they swarmed out and left with the next.

Yes, it will be all right to put a new hive with starters in place of the old hive when a swarm issues, and let the swarm enter, provided you get the queen with the swarm. Only, instead of starters it will be better to have full sheets of foundation, for if you

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have only starters you will get more drone comb than you want.

It is hardly likely that foul brood had anything to do with the bees swarming. You can make sure whether you have foul brood by sending a sample of the suspected comb to Dr. E. F. Phillips, Department of Agriculture, Washington, D. C. If you write him in advance he will send you a package in which to send the sample. It will cost you nothing.

The 3-banded leather-colored Italians are probably as good as any. Summer or fall is a good time to requeen.

Bees Hanging Out—Black Bees in Hive

1. My bees have been hanging from the top of the hive to the ground. They fly around the hive and then cluster. Only a few seem to work. They have been doing this for two weeks. Are they getting ready to swarm?

2. I bought them last year for pure Italians, and now there are black ones in the hive. Could they have been pure Italians? This is my first year with bees. OHIO.

ANSWERS.—1. I don't know enough about the conditions to answer. If no nectar is to be had, that may be a sufficient reason for their idleness. If there is a good flow of nectar, hanging out might be a sign they are getting ready to swarm, and yet they would hardly keep that up for two weeks. So, on the whole, it looks more as if there is nothing for them to do, yet that may not be the case at all. Give them more room and more ventilation.

2. You do not say whether there were any black bees in the hive last year. If the workers were all properly marked last year, it is possible that the queen was superseded last fall or this spring, and that the new queen is mated. If there are only a few black bees in the hive, they may be from other colonies; for bees do move in the way of changing from one hive to another then is generally supposed. Look in the hive and see whether there are any black bees among the downy little fellows that have just hatched. If there are, then either the queen has been changed or the queen you bought was not pure.

Swarming—Will Cutting Out Queen-Cells Effect a Safe Cure?

Here is a little bee-history and two questions: On Nov. 12, 1911, mercury 12 degrees above zero. I put my 2 colonies of bees into the cellar. These will be called No. 1 and No. 2 from this on. They wintered well, few bees dying and falling on the floor during their confinement, which lasted almost 5 months. I did something I never did before and believe it worth reporting. I left the bottom-boards on and the summer entrances just as they were on the stands outside, and to give better ventilation I lifted the tops and carried them back one inch. This gave an abundance of air circulating through the hive, and prevented dampness or mold in the hives or on the combs. I mention this procedure because the winter preceeding I placed 4 colonies in the same cellar, turning the entrances toward the wall, and gave no ventilation save what they got from the summer entrance. I lost almost all my bees, and the hives were full of moisture and mold.

April 14, 1912, temperature 70 degrees above, I carried Nos. 1 and 2 out on the summer stands. No. 1 was rich in honey and populous in bees, covering every frame in a 10-frame dovetailed hive. No. 2 was not so rich in bees nor honey.

I had some partly-filled sections from the preceding season, these I fed from time to time in the open, as the weather was damp and cold.

May 10 No. 1 sent out a good sized swarm at 2 p.m. This (No. 3) was placed on the old stand, and No. 1 was moved the width of itself east. May 23 the weather looked threatening, and though it was only 4 days since No. 3 issued, I moved No. 1, the parent colony, 12 feet away, instead of waiting 8 days as instructed, thinking we would deplete it more to move on the 4th day, while flying, than to wait until the 8th day, when the weather would probably be cold or rainy.

May 31 No. 1 sent out a good sized secondary swarm. Being away from home my brother hived it in an 8-frame hive with full foundation wired in. When I got home in the afternoon of the same day we opened No. 1 and cut out all the queen-cells. We then placed a loose door in front of No. 1, and picking up one frame at a time we shook

the secondary swarm on the door. In this way we had a good chance to watch for the queen. We found 2 queens and killed one. Since this experience No. 1 is seemingly happy and is working.

May 23 No. 2 sent out a medium-sized prime swarm at 2 p.m. It was hived and placed on the old stand, the parent colony moved the width of itself, and each allowed to remain there 8 days. This new swarm, as you see, is No. 4.

Now May 31, 8 days after No. 4 came out of No. 2, No. 2 was moved 12 feet away. The workers from No. 2 went to No. 4 and were slaughtered by the thousand.

1. Why did No. 1 swarm the second time?

2. Why did No. 4 kill the fielders from No. 2?

3. If a colony is rich in bees and honey, and is apparently ready to swarm, is it a safe or sure procedure to cut out all queen-cells?

ILLINOIS.

ANSWERS.—1. For the same reason that any colony sends out a swarm; because there were two or more young queens in the hive, and enough bees in a prosperous condition to afford to swarm. If you had left them 4 days longer there would likely have been no second swarm. Killing one of those queens probably made no difference, for if you had let them alone one would have killed the other. But destroying the cells probably did make a difference.

2. I don't know. Can't make a guess. Never heard such a case before.

3. If you mean safe and sure to prevent swarming, no. In some cases it may prevent swarming entirely. In some cases it may delay it a week or two. In some cases it may delay it only a day or two.

Bait for Bee-Hunting—Swarms Killing Drones

1. What is the best bait to use for hunting bees?

2. One colony of my bees swarmed yesterday and returned to the hive. What do you think was the cause of it?

3. When bees fly off through the woods how far can you look for them? When they get up above the trees how far can I look for them?

4. Does it make any difference when I kill the drones?

5. About how long do you think it will be before that swarm comes out again?

TEXAS.

ANSWERS.—1. Honey is probably as good as any.

2. It may be that the queen was not able to fly with them. It may be that it was an after-swarm or a mother colony in which there was a young queen which was making her bridal trip, and a lot of her bees flew out with her.

3. If you mean how far it is worth while to look for a swarm that has flown away, I should say that they might go any distance inside of 5 miles, and possibly farther. I don't know that getting above the trees would make any difference.

4. Yes, it will save something in the way of feed. If you should kill them all, and if there were no neighboring drones, your young queens reared without any drones would rear no worker-bees, only drones. But you needn't be alarmed about getting all killed off. When you have killed off all you can, the likelihood is that plenty will be left.

5. If my first guess was correct, they might come out again in a day or so. If my second guess was correct, they would likely not come out again.

Trouble With Ants—Bees Not Working in Supers

1. I have 6 colonies of bees. The smaller ones are bothered with large, black ants. Is there any way of stopping them?

2. What is the reason that bees will not work in the supers? I put 2 sections of comb in the middle of each super before putting them on, but the bees work in the body of the hive.

WISCONSIN.

ANSWERS.—1. On page 167, under the head of "Timely Hints for June," you will find an answer to your question. As mentioned there, ants annoy the bee-keeper rather than the bees. It is decidedly annoying to have them crawling over the hands and biting. Yet it may be well to add that there are ants and ants. Go far enough South and you may find ants that will destroy a colony sometimes in short order. Even in the North there is a kind to be dreaded. You say yours are "large, black ants." Most likely that means ants that are a quarter of

an inch or so in length, which are large in comparison with little red ants. But if you have the big wood ants that are $\frac{1}{2}$ of an inch long, then that's another story. I've had no little trouble with them, and they are hard to combat. They get between the bottom-board and the board on which it rests, and honey-comb the bottom-board. Sometimes there will be merely a shell left, so that you will hardly notice anything wrong, yet a little touch when hauling bees might break through a hole to let the bees out. Carbolic acid may do something toward driving them away. You may also poison them. Take two pieces of section, or, perhaps, better still, two thin boards 4 inches square, or larger, fasten upon each end of one of them a cleat $\frac{1}{4}$ inch thick, and lay or fasten the other on it, thus leaving a space of $\frac{1}{8}$ inch between the two boards. Mix arsenic in honey and put between the boards. The bees can not get into so small a space, but the ants can. Or, put poison in a box covered with wire-cloth that will let the ants in but keep the bees out.

2. Your letter is dated May 20, and at that time it is very unlikely that the bees were getting enough to work in the supers. Certainly they were not here, and I am farther south than you. Don't expect your bees to do anything in the supers until there is enough coming in to fill up all empty cells in the brood-chamber. Time enough to store honey for you after they have stored all they can for themselves.

Getting Bees from a Chimney—Do Swarms Ever Return

1. Do you know of any way in which I can get bees from the chimney of a house?

2. Will a swarm that once leaves ever come back to the same hive?

NEW JERSEY.

ANSWERS.—1. I don't know of any very good way. If any one else does, perhaps he will tell us. I've had such bees offered me if I'd take them, and never thought they were worth the trouble.

2. It is the regular thing for a swarm to return to its hive in a short time after leaving, if its queen is not with the swarm, either because she is clipped or for any other reason. Even if hived, if its queen should be accidentally killed within a day or so I think the swarm might return. If you mean that the swarm leaves by flying off entirely, I don't suppose there's one chance in a thousand for such a swarm to return.

Chilling of Brood—Danger of Poisoning Bees

1. On May 12 a swarm issued and was hived in the usual way, the new hive being placed on the old stand, and frames given with full sheets of foundation. The foundation has been drawn out and the brood capped. Yesterday, June 8, I looked at the colony and the brood is only partly covered with bees, and is dead. I am of the opinion that the change in the weather (we have had a sudden change from warm to cool weather) has caused the bees to cluster over certain portions of the brood to keep it warm, and in doing so they have had to leave some of the other frames of brood, and consequently they have become chilled. This couldn't be a case of foul brood with new frames and new foundation, etc., could it? The larvæ which I pulled out of the cells were white and almost matured, but were not rosy or sticky like a case of foul brood would be.

2. What I want to know now is, will the bees clean out these frames, or would it be advisable to shake some bees in front of the hive from another colony, so as to give the hive more bees?

3. The swarm wasn't a very large one, although the queen keeps on laying. What is the use of it if the brood can not be kept so it will properly mature? I have never had a case like it before.

4. In order to keep the weeds from growing in front of the hives, I have sprinkled salt water around, and it has had a good effect. Last year it was done quite often, and the weeds were kept down. This year they all came up again, and salt is dear if much is used. A friend of mine, who is a chemist, told me he would make up something that I could put in water and use it with a watering-pot, and he said it would kill grass, weeds, or any other stuff where it is put on; but there is acid in it. Now, what I want to know is, whether the bees alighting on the ground would drink any of the stuff and die? I have been afraid to try it without consulting you, for fear of killing

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the bees. I might sprinkle around the hives at night after dark, and the solution would be all soaked in the ground by morning. Some have advised me to use crude oil, such as they sprinkle the streets, but I would just like to know that, in the event of my using anything, would the bees get poisoned by drinking some of it. I got my idea from the fact that the bees have been poisoned from people spraying fruit-blossoms; although that is different, for the bees are after pollen and nectar in that case.

NEW JERSEY.

ANSWERS.—1. It doesn't seem at all like a case of foul brood.

2. Giving more bees will, of course, strengthen the colony, but it is no more necessary than if no brood had been killed. As the bees occupy increased room for either brood or stores, they will clean out the dead brood.

3. There is no use in having eggs laid that will not mature, but a queen will keep on for some time laying more than the necessary number of eggs when suddenly cut down as to the room she occupies, provided she is a prolific queen. But she is not likely to continue very long laying more eggs than the bees can care for.

4. I don't believe you need fear killing the bees by poisoning the grass as you propose, especially if the work is done at night as you suggest. But it will be an easy matter to try it before a single hive before you go over the whole apiary.

Melting Up Old Combs

I have a lot of combs from hives in which the bees winter-killed; also from late swarms of last year that starved out during the long, cold winter. How can I convert these combs into beeswax? NEBRASKA.

ANSWER.—If you have enough to make it worth while, the best way to get the wax out of your combs is to get one of the wax-presses or extractors that will leave in the remains a very small amount of wax. To be sure, you can get out quite a bit of wax with a solar extractor, but if the number of combs be large it will pay to get something more effective. For a very few combs, however, it may not pay to spend much, and the solar will do. You may also get out a large percent with a dripping-pan. Take an old dripping-pan (of course a new one would answer), split it open at one corner, put it in the oven of a cook-stove with the split end projecting out of the oven so that a vessel set under it will catch the dripping wax. Put a pebble or something else under the inside corner, so as to make the wax flow outward. If the comb be previously soaked with water for several days, and a single comb at a time be laid in the pan, the wax will not be tempted to hide in the cups made by the cocoons. But it will be slow work. You may also break the combs up into bits, provided you can have them cold enough to be brittle, put them in a gunny sack in a boiler or other vessel on the stove, weight down the sack, working it occasionally with a stick, and skim off the wax as it rises.

Having made this attempt at answering, it is only fair to add that I feel like a baby in long dresses compared with the editor-in-chief when it comes to working wax. He has waxed wise in wax-working through many years of experience that I have not had. So I cheerfully yield the floor to him, to make such emendations as he sees fit.

[The only thing the Editor would add is that, with old combs in which many generations of bees have been reared, it hardly pays to render the wax without water, for a great deal of it is soaked in the cocoons and cast skins of the larvæ. Soaking these in water first, prevents the wax from adhering to the residue, or slum-gum as they call it. The last method given is, in our opinion, the best, unless a regular wax-extractor is used. —EDITOR.]

Is Requeening With Pure Italian Stock Sure Cure for European Foul Brood?

I would like to know if requeening from healthy Italian stock is a sure cure for European foul brood; if not, what is?

CALIFORNIA.

ANSWER.—No; the mere fact of requeening is not a cure. It is generally believed that good Italian stock resists the disease better than others, so that the introduction of an Italian queen may be a help, although

not a cure. Some believe that the only way to treat European foul brood successfully is to treat it the same as American foul brood, by brushing the bees upon the foundation. The late E. W. Alexander made the colony queenless, and 20 days later gave it a queen-cell or a very young virgin of Italian stock. That left the colony 27 days or more without any eggs being laid. I have treated cases without any eggs being laid for a week or 10 days, a number of cases that were not very bad, merely having the queen caged the proper time. While this dequeening plan may be said to be on trial, I have much faith in it, and in my own practice prefer it.

Increasing Ventilation—Dividing

1. As I am a student in beedom, I am trying to learn a little every day, not only in my yard, which I started 2 months ago, but also from all obtainable reading matter.

Now, there is one main question which I do not find answered anywhere. In Root's "ABC of Bee Culture" it is suggested to put 4 blocks under the brood-chamber in order to give the colony more ventilation. This I have tried for the first time today, and found that it was just the thing. I have never seen my bees as busy as today.

But, while the colony can hardly be guarding all 4 sides of the hive all day long, is there not danger from robbing? And how about the wax-moth miller? Is it advisable to leave those blocks in their places day and night, or should they be taken out evenings?

2. I bought some bees this spring, and one colony had two brood-chambers, one on top of the other. Now I have read somewhere, if a man is after comb honey, only one of those brood-chambers should be allowed. So I took off the lower hive, expecting all the bees to be above. But I was mistaken. There was a bunch also in the lower story. I put this hive on a new stand, and expected the bees to return to the main colony. But they stayed and worked as though nothing had happened. So I ordered a queen and introduced it according to the directions, but I could not find any eggs when I investigated about a week later. The bees are carrying pollen and honey, and what I would like to know is this: Is it a sign of young brood when bees carry pollen? IOWA.

ANSWERS.—1. While I value greatly the matter of giving abundant ventilation, I'm afraid you are giving it more credit than it deserves, when you think it increases noticeably the amount of work a colony does the very first day. The special value of this abundant ventilation lies in the fact that it does something toward making the bees more comfortable, thus doing at least a little toward keeping down swarming. It would be too much work to raise the hive and lower it daily. No need to lessen the ventilation until cooler weather comes for good, or at least until danger of swarming is over. Don't worry about moths or robbers if the colony is strong. The bees will take care

of themselves. I don't know just how the moths manage it, but they seem to work their way into a hive even if the entrance be only large enough for a single bee; but the bees will not allow them to make any headway even if all the combs are exposed, always provided the colony be strong, and especially if the bees are Italian.

2. Bees can protect their stores better if these stores are above the brood, so you would generally find the bees in the lower instead of in the upper story. However, they may have their brood-nest in either, or in both.

I have great respect for men of the cloth, and it would not be polite in me to dispute your word, but I feel quite sure you are mistaken in thinking that when you put the lower story on a new stand the bees "stayed and worked as if nothing had happened." I don't want to encourage you to become a gambler, but if you were one, and if I were, too, I'd count it a safe thing to stake heavy odds on it that every last field-bee returned to the old location the first time it returned from the field.

That you found no eggs in the hive a week after the introduction of the queen raises the suspicion that no queen may be present. Yet it sometimes happens that a queen may be present more than a week after introduction before the eggs can be found. Although it is generally said that carrying in pollen is the sign that a queen is present, it is not always reliable. You will find more pollen generally in a queenless colony than in a queen-right one, which shows that the bees continue to accumulate pollen after they have ceased to have brood to use it up. But after a little there will be a falling off in the amount of pollen brought in, and you will see the bees of the queenless colony bringing in smaller loads, if they bring any.

Bees Killing Each Other—Remedy

1. Will bees kill each other in their own hive?

2. I had a strong colony a month and a half ago and they have almost gone to nothing. They are constantly fighting amongst themselves, and are neglecting the brood which is dead in the cells. I can gather by the pint bees that they have killed. At first I thought they were robbing, so I moved the hive about 4 miles, and I find it is still the same. Kindly tell me what is the cause and the remedy. NEW YORK.

ANSWERS.—1. It often happens that one bee will kill another in their own hive, provided they are young queens. But under normal conditions a worker will not kill another worker of the same colony.

2. I don't know what the trouble is. It looks a little as if what you call fighting might be the bees driving out diseased bees. If there is further trouble, please give as full particulars as possible either to this office or to Dr. E. F. Phillips, Department of Agriculture, Washington, D. C.

REPORTS AND



EXPERIENCES

Binding Bee Journals—A Veil and Shirt Combined

I have learned some good things by studying some back articles in the Bee Journal, so I nail the old journals together one year at a time with small nails driven in from both sides, so that the nails pass each other about four on a side. Tack a piece of board or leather on each side. This will keep the nails from pulling through.

I would like to describe a veil for the benefit of all bee-keeping friends. It is a perfect bee-veil. I read about it in Gleanings in Bee Culture for Sept. 1, 1910, page 558. For those who do not want to look it up, I will describe it. Take an old work shirt and cut the collar out large enough so that you can get your head through easily. Hem in a small piece of wire in lieu of a collar. Now get a piece of 1/2 inch rope and sew it to the wire collar all around to form a lip to hold the rubber-cord of the veil. The top elastic goes around the hat, and the bottom one around the wire in the shirt, thus you have a perfect veil, fixed so the bees can not get in, and yet you are free and

comfortable. I want to thank Mr. Fowls for this, for I had never been fixed so that bees could not get in my veil until I read his plan.

R. E. HICKOK.

Christiansburg, Va., May 4.

Foul Brood in Nebraska

This is 25 miles from Hastings, Nebr. The loss of bees here last winter was about 90 percent or more. What are left pick up slowly. We are having rains now and they are doing better. We had some foul brood last summer, but I have not seen any this spring. I have insisted on all the old combs being burned, and am in hopes that it is gone for good, but that is too good to expect.

J. T. KELLIE,
Bee-Inspector.

Heartwell, Nebr.

Spring Dwindling Causes Loss

I think this is the worst spring I ever saw for bees. My bees wintered in good shape, but April and May have been so cold and

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wet that the colonies have dwindled until I have hardly any first-class colonies left, and many of them have only a pint or a quart of bees, when, at this time, they ought to have a hive full of brood and bees.

Parkville, N. Y., May 24. A. W. SMITH.

A Fine Vagrant Swarm

I use Danzenbaker hives and supers. The lower supers of the extracting combs are moved above when full, and the empty ones



A HIVE WELL PROTECTED FROM HOT SUN.

put under. The colony represented is one built up from a vagrant swarm captured from a bee-tree. The bees are of a beautiful yellow and the queen keeps 20 Danzenbaker frames so full of brood that there isn't room for 10 pounds of honey in the two hive-bodies.

Central Station Apiary.

A California Description

While visiting friends at Orange, I was invited to accompany Mr. L. A. Korse on one of his daily visits to his apiary just out of the city. He has 150 colonies, and runs for extracted honey, as most of them do here. The swarming season is on, and many swarms have recently issued. An extra good season comes about every 5 years, when an extra large colony will produce 300 pounds of honey, and they have been known to produce even more. Mr. Korse has kept bees for many years, and keeps his apiary free from disease. California has county inspectors, and the diseases are kept under control. Illinois, my home, will be wise if they follow this example.

Pasadena, Calif., May 21.

Half of an Apiary of 50 Colonies Lost

I lost one-half of my apiary of 50 colonies during the winter.

I am an old man 70 years old. I am shaking bees according to G. M. Doolittle, and want some queens.

Bedford, Iowa. J. H. FITCH.

Sage Honey Crop Short in California

The present prospects for sage honey are very poor. Not 20 percent of it will blossom. The weather has been too cold. My thermometer stood at 45 degrees this morning. Swarming has been very light. My scale hive has gained only ½ pound in two weeks. I have to feed new swarms, and the bees rob. These are the conditions at this date here.

San Marcos, Calif., May 25.

"Deceptive Honey" from the Laurel Tree?

In regard to the question asked of Dr. C. C. Miller about deceptive honey, on page 117, in the April issue of the American Bee

Journal for 1912, I will say that the honey might have come from the laurel tree; there is a small amount of it around here, probably not enough to make a difference, but there is a good deal in some places, and I think I have seen it stated that laurel honey has quite disagreeable properties.

Sunolglon, Calif., May 20.

Three Poor Years in North Central Texas

Bees have been almost a failure in north central Texas for the past 3 years, owing to drouth. I have moved part of my 300 colonies of bees to Llano county, where I have a better location for them: but a severe drouth is on there now, with prospects anything but bright for a honey crop this present year.

This apiary is 65 miles from my present location. We have had plenty of rain here up to the present time, but we nearly always have to feed the bees in this locality up to the first of June. So, after this year, I will be located in Llano county for a time at least.

Rescue, Tex., May 24.

Swarm Settles on Automobile

At San Bernardino, Calif., May 13, a swarm of bees flying in a wedge-shaped column caused a havoc in one of the principal streets. Automobiles and buggies collided with several thousand insects, and the occupants beat a hasty retreat. Women took refuge in stores. The swarm finally took possession of an automobile belonging to Mr. W. C. Leecombe, which was standing at the curb, and defied the efforts of the owner of the machine, who was helpless to move his car for several hours. Bee-experts finally coaxed the honey-seekers into a box.

Pasadena, Calif., May 21.

Hiving Bees in a Sugar Barrel

We caught a swarm of bees and placed it in a sugar barrel just before hiving it in a standard 8-frame hive. The boys' mother snapped the picture with the crowd of boys



TRANSFERRING FROM A BARREL TO A HIVE.

as witnesses. The owner, Ned Berwick, of Hearst Ave., to the right of the barrel, with his hands clasped; Master John and Mr. Frohlinger in the rear.

Bees are in fine shape, and ready for the honey harvest.

Berkeley, Calif., April 20.

Clover Prospects Fine in New York

The clover crop in northern New York never looked better, with wet, rainy weather all through May. My bees are in poor condition, but are picking up on dandelion and fruit bloom. The prospects now are for a large crop of honey.

Rensselaer Falls, N. Y., May 28.

Horse-Dung for Smoker-Fuel

I noticed an article in the last issue of the Bee Journal regarding the use of cow-dung for smoker-fuel. I have never used cow-dung for this purpose, but I have used horse-

dung with great success. Of course, it must be perfectly dry. The smoke from it is mild, and will hold fire much better than any other substance I have ever tried. And, again, it has no bad odor. Some people may be prejudiced against the use of it, but if they will take the pains to try it, they will find it to be all right.

Mohler, Wash., June 7.

Bees Wintered Well—Prospects Good

My bees have wintered fine with but few losses. They are all in 2-story hives, and I find that many have from one to 14 combs of brood, and are doing well, although I shall have to feed until alfalfa comes into bloom, as there is not much else for them to get at present. It has been cold and wet this spring, and we had snow from Christmas time until in April, with but few moderate days.

Corn planting is now on in full blast. So far crops are looking well, with a good prospect for a honey harvest. Alfalfa is nearly 2 feet high, and is doing fine.

J. J. MEASER.

Hutchinson, Kans., May 18.

Missouri Loss Heavy Also

I had a loss of about 20 percent. I have 50 colonies in good shape; they are working fine today. Prospects are fair for a honey crop if plenty of rain. Considerable white clover is just coming in bloom. It has been cold and backward here.

Avalon, Mo., May 24.

Not a Colony Lost

My bees are in fine shape. I haven't lost a colony up to date.

Paris, Tex., June 8.

Bees Flourishing in Ohio

Bees are doing splendidly this spring. I have increased my little apiary from 5 colonies to 10. Clover has opened in fine shape, and if the weather continues favorable we

will have a fair crop. Indications are good for a flow from basswood.

Medina, Ohio, June 1.

Losses in New York One-Third

The winter losses are a little over one-third. Clover and other honey prospects are good. I have about 230 fairly good colonies now.

Kenmore, N. Y., June 3.

Convention Notice

The annual meeting of the New Jersey Bee-Keepers' Association will be held on Friday, July 12, at the apiary of Mr. Chas. H. Root, at Red Bank, N. J. Program for the same is being prepared.

E. G. CARR,
Sec. and Treas.

American Bee Journal

Wants, Exchanges, Etc.

[Advertisements in this department will be inserted at 15 cents per line, with no discounts of any kind. Notices here cannot be less than two lines. If wanted in this department, you must say so when ordering.]

BEES AND QUEENS.

NUTMEG ITALIAN QUEENS, leather color, after June 1, \$1.00. A. W. Yates, Hartford, Ct.

VIRGINIA QUEENS now ready. Untested 75c Tested \$1.00. All dead ones replaced. 6A3t S. Click, Mt. Jackson, Va.

SEND for price-list of my **Leather-Colored Italian Queens**. Geo. B. Howe, Black River, N. Y. 7A1t

FRONT line Italian Queens, well bred and hardy. After June 1, 6 for \$4.50. Satisfaction guaranteed. J. B. Hollopeter, Pentz, Pa.

GOLDEN Italian Queens, Nuclei, and Full Colonies. See price-list in May number, page 131. Isaac F. Tillinghast, Factoryville, Pa.

GOLDEN QUEENS that produce 5 and 6 band bees. Untested, \$1.00; Tested, \$3.00. Robert Inghram, Sycamore, Pa.

WANTED—To buy bees, any quantity. Say what you have, and lowest price first letter. E. H. Bruner, 3836 No. 44th Ave., Chicago, Ill.

WANTED—A man to work an apiary on shares, or will sell fine location near Trinidad. Address, 6A2t R. S. Cotton, Trinidad, Cuba.

FOR SALE—Italian bees in 8-frame hives; free from disease. \$7.50 per colony. Wm. Davenport, 176 Forest St., Winnetka, Ill.

FOR SALE—Three-banded Italian Queens bred for honey, gentleness, and prolificness. One, \$1.00; 6 for \$5.00. Wm. S. Barnett, 7A4t Barnett, Va.

MY SYSTEM—Union bee-hive and Queen. Will increase both your colonies and honey crop, and improve your stock, making bee-keeping a real pleasure. Cash orders \$10.00. 3A1t Joe Egner, Box 552, Laverne, Ill.

GOLDEN QUEENS that produce Golden Workers of the brightest kind. I will challenge the world on my Golden and their honey-getting qualities. Price, \$2.00 each; Tested, \$2.00; Breeders, \$5.00 and \$10. 7A4t J. B. Brockwell, Barnett, Va.

QUEENS—Italians and Carniolans. Will exchange choice queens for bees by the pound, frame, or hive. Write, stating what you have. Frank M. Keith, 3A1t 83½ Florence St., Worcester, Mass.

NORTHERN BRED hardy Queens of Moore's strain of Italians, ready the last of June. Untested, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Orders filed and filled in turn. 6A1t P. B. Ramer, Harmony, Minn.

FOR SALE—60 colonies of Pure Italian Bees in 8-frame hives; no disease; 140 comb supers fitted up for 50 empty hives; Extractor, Uncapping can, 50 Honey-Boards; in fact, everything needed to run apiary. \$300 takes all. Reason for selling, going South. George Grover, Rt. 4, Trenton, N. J.

QUIRIN's famous improved Italian queens nuclei, colonies, and bees by the lb., ready in May. Our stock is northern-bred and hardy; five yards wintered on summer stands in 1908 and 1909 without a single loss. For prices, send for circular. 3A5t Quirin-the-Queen-Breeder, Bellevue, Ohio.

FOR SALE—Large well-reared queens of Howe stock, mated to drones of the same strain as practiced by Mr. Howe in building up this fine strain. Can guarantee select mating, no other bees in mating distance. Untested, \$1.00 each; 6 for \$5.00; 9.00 a doz. Satisfaction and safe arrival guaranteed. 7A1t D. G. Little, Hartley, Iowa.

FOR SALE—Italian queens bred from the best honey-gathering strains obtainable. Untested, 75c; Select, \$1.00; Tested, \$1.25; Select Tested, \$1.50; Nuclei without queen, 1-frame, \$1.50; 2-frame, \$2.00; 3-frame, \$2.75. For queens and nuclei in quantity lots, and bees by the pound, write for prices and circular. Robert B. Spicer, Wharton, N. J.

GOLDEN and 3-band Italian Queens (strictly free from disease). Tested Queens, \$1.00 each; 3 for \$2.75; 6 or more, 85 cts. each. Untested, 75c each; 3 Queens \$2.00; from 6 to 50, 55 cts. each. Bees by the pound, \$1.00. Nuclei, per frame, \$1.25. Safe arrival and satisfaction guaranteed. C. B. Bankston, 2A1t Buffalo, Leon Co., Texas.

FOR SALE—North Carolina bred Italian Queens, bred up for business; none better for honey gathering. Good recommendations coming in almost every day. I have Root's, Moore's, Davis', Quirin's, and Laws' strains, and choice Imported Breeders to get my fine honey-gathering strain from. I breed all Queens in full 2-story colonies running over with bees at all times. I keep nothing but the very best Red Clover Italians and the Golden in my yards. Try them and see for yourself. Untested, 75c; doz., \$7; Tested, \$1.25; Select Tested, \$1.50; extra Select Tested, \$2; Select Breeders, \$3; extra Select, \$5. H. B. Murray, Liberty, N. C.

SUPPLIES.

FOR SALE—160-lb. honey kegs at 50 cts. each f. o. b. factory. N. L. Stevens, Moravia, N. Y.

FOR SALE—A full line of Bee-Keepers' Supplies. Agents' prices. Save freight. Dreamland Farms, Buckingham, Fla.

FOR SALE—Empty second-hand 60-lb. cans, 25 cts. per case of two cans; 100 for \$22.50. 7A4t E. R. Pahl & Co., Milwaukee, Wis.

EASIER FRAME manipulation with the "Dandy Hive-Tool" (tempered steel). Post-paid, 20c. Henry Benke, 7A3t Pleasantville Station, N. Y.

MISCELLANEOUS

FOR SALE—A first-class apiary at a bargain. Reason for selling, death of principal owner. Address, H. C. Adler, Victoria, Tex.

MAKE PURE, delicious fruit acids from honey. Cures all diseases, man or beast. Patent allowed. Mailed, 25 cents. 1A1y C. W. Dayton, Chatsworth, Calif.

HONEY

WANTED—Comb, extracted honey, and beeswax. R. A. Burnett & Co., 6A12t 173 S. Water St., Chicago, Ill.

FINE WHITE and light amber alfalfa honey put up in any size of tin packages, any quantity. Dadant & Sons, Hamilton, Illinois.

WANTED—Choice extracted white and amber honey in barrels or cans. Send sample, and price delivered f. o. b. Preston. 11A1t M. V. Facey, Preston, Minn.

Better Fruit

Published at HOOD RIVER, OREGON,

is the best, handsomest and most valuable fruit growers' paper published in the world. It is handsomely illustrated and shows the Western methods which have been so successful in winning high prices.

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CASH ON ARRIVAL

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To The New Century Queen-Rearing Co.



FOR
**Goldens,
Caucasians,
Carniolans,
3-b'd Italians**

Untested, \$1.00; Tested, \$1.50.

Write for prices in large quantities. "Right Treatment and Quick Service" is our motto. Address as above, or

JOHN W. PHARR, Propr.
BERCLAIR, TEXAS.

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Italian Queens ROOT AND DOOLITTLE Strains direct. Prompt shipments on superb queens from these famous stocks. Untested 80c each, \$7.00 per doz. Tested from \$1.00 to \$1.50 each or \$10.00 to \$15.00 per doz. Nuclei and full colonies. Write for prices and catalog. No foul brood or other bee diseases. Safe arrival guaranteed. 7A3t

F. M. BABCOCK, Fredonia, N. Y., R. F. D. No. 17.

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American Bee Journal for 1911.—We have a number of complete volumes of the American Bee Journal for 1911, which we offer for 60 cents for the 12 numbers, as long as they last. Or, should there be among our subscribers those who would like to have any copies of the American Bee Journal for 1911 to complete their volume or otherwise, we will fill such orders at 5 cents per copy. Address this office.

American Bee Journal

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JOHN C. FROHLIGER,

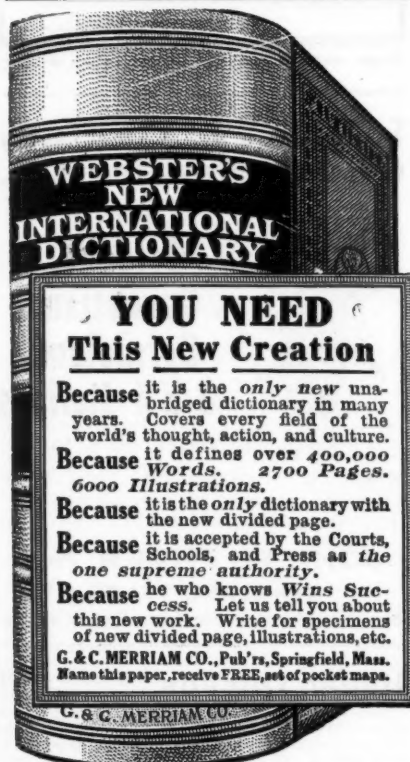
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This book on bees is also known as the "Manual of the Apiary." It is instructive, interesting, and both practical and scientific. On the anatomy and physiology of the bee it is more complete than any other standard American bee-book. Also the part on honey-producing plants is exceptionally fine. Every bee-keeper should have it in his library. It has 544 pages, and 295 illustrations. Bound in cloth. Price, postpaid, \$1.20; or with a year's subscription to the American Bee Journal—both for \$1.90. Send all orders to the office of the American Bee Journal,

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Work for a Full-Capacity Honey-Crop.

Send for Samples. All Supplies at Prices you appreciate.

Gus Dittmer Company, - Augusta, Wisconsin.



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This is G. M. Doolittle's master-piece on rearing the best of queens in perfect accord with Nature's way. It is for the amateur and the veteran in bee-keeping. The A. I. Root Co., who ought to know, say this about Doolittle's queen-rearing book:

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Mr. Doolittle's book also gives his method of producing comb honey, and the care of same; his management of swarming, weak colonies, etc. It is a book of 126 pages, and is mailed at the following prices: Bound in cloth, \$1.00; bound in leatherette, 75 cents.

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Every bee-keeper should have a copy of Mr. Doolittle's book, as he is one of the standard authorities of the world on the subject of queen-rearing and everything else connected with bee-keeping and honey-production.

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Scientific Queen-Rearing, as Practically Applied, by G. M. Doolittle.—It tells how the very best Queen-Bees are reared in Nature's Way. A good authority says: "It is practically the only comprehensive book on queen-rearing now in print. It is looked upon by many as the foundation of the modern methods of rearing queens wholesale." Price, bound in cloth, 75 cts., postpaid; or with the American Bee Journal a year—both for \$1.50. The same book bound in leatherette, 50 cts., postpaid; or free with the American Bee Journal one full year if paid in advance strictly, by either new or renewal subscription at \$1.00.

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Color has not been my special object; but to produce bees that will bring in honey, and store it in supers where it is wanted. I am also paying a great deal of attention to Gentleness among my bees, so that almost any one can handle them.

Annual importations of Queens has kept my stock absolutely pure.

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Select Tested, \$2.00 each.
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Nuclei and Full Colonies.

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During July at the close of the clover and basswood flow is the best time to do general re-queening. Carniolans are the best bees to continue rearing brood through the dearth of nectar during the summer, thus insuring strong colonies for the buckwheat and fall honey flow.

PRICES: Select untested, \$1 each, \$9 per doz. Select tested, \$1.50 each, \$12.00 doz. Breeders, \$5.00.

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“ “ Tested “ —1 frame, \$3.00; six 1-frame, \$17.40	—2 frame, \$4.00; six 2-frame, \$23.40	

The Drones used in our Apiary for Mating purpose are reared from the very best selected Queens, which is as necessary as the selecting of a good Queen for Queen-Rearing. For good Queens and quick service you can not do better than place your order with us. We guarantee safe arrival and satisfaction. Directions for building up weak Colonies will be mailed to you for 10 cents.

The above Queens are all reared in Separate Yards.

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Circular Free.

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Prices for July and After

One Tested Queen....	\$1.10
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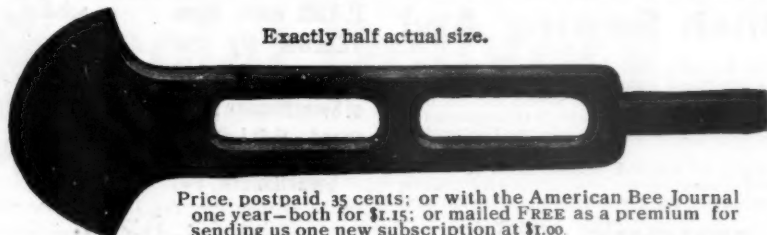
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This is a special tool invented by a Minnesota bee-keeper, adapted for prying up supers, and for general hive and other work around the apiary. Made of malleable iron, 8½ inches long. The middle part is 1 1-16 inches wide, and 7-32 thick. The smaller end is 1½ inches long, ½ inch wide, and 7-32 thick, ending like a screwdriver. The larger end is wedge-shaped, having a fairly sharp, semi-circular edge, making it almost perfect for prying up hive-covers, supers, etc., as it does not mar the wood. Dr. C. C. Miller, who has used this tool since 1903, says: "I think as much of the tool as ever."

50,000 Copies "Honey as a Health-Food" To Help Increase the Demand for Honey

We have had printed an edition of over 50,000 copies of the 16-page pamphlet on "Honey as a Health-Food." It is envelope size, and just the thing to create a local demand for honey.

The first part of it contains a short article on "Honey as Food," written by Dr. C. C. Miller. It tells where to keep honey, how to liquefy it, etc. The last is devoted to "Honey Cooking Recipes" and "Remedies Using Honey." It should be widely circulated by those selling honey. The more the people are educated on the value and uses of honey as a food, the more honey they will buy.

Prices, prepaid—Sample copy for a 2-cent stamp: 50 copies for 90 cents; 100 copies for \$1.50; 250 copies for \$3.00; 500 for \$5.00; or 1000 for \$9.00. Your business card printed free at the bottom of front page on all orders for 100 or more copies.

Address all orders to

American Bee Journal, Hamilton, Illinois.

3-BAND ITALIAN and GOLDEN QUEENS



FOR SALE—All Queens bred from improved long-tongued Red Clover stock, as good honey gatherers as money can buy. Reared by the Doolittle or Miller plan. One untested Queen, 75 cts.; 12 for \$7.50; 50 for \$25.00; 100 to 500, \$45.00 per 100.

One Tested Queen, \$1.50; 12 for \$15.00. No nuclei or worker-bees for sale. No brood-dis-

ease in my bees. Safe arrival guaranteed.

6Attf **J. B. ALEXANDER, Cato, Ark.**

Mott's Strain of Italians—

Also Carniolans

10-page Descriptive List free. Untested, \$1.00 each; \$9.00 per doz. Natural R. C. Golden from Imported Stock, Sel. Untested, \$1.10 each; Tested, \$1.50. Bees by pound and Nuclei. Leaflets, "How to Introduce Queens," 15c each; on "Increase," 15c. or both for 25c.

E. E. MOTT, Glenwood, Mich.

Italian Breeding Queens

at a bargain. I am offering just a few of my very finest breeders at \$2.50 each while they last. Untested queens, \$1.00; Select Untested \$1.25. 6Attf

H. A. JETT, Queen-Breeder, Brooksville, Ky.

Have You Bees for Sale?

Owing to winter losses there is a considerable demand in the country for colonies of bees. Those having bees for sale should write at once to the American Bee Journal, Hamilton, Illinois.

American Bee Journal

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Bee-Supplies

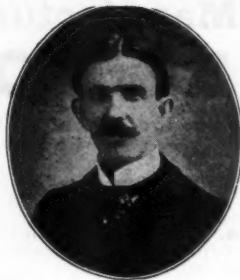
Standard hives with latest improvements. Danzenbaker Hives, Sections, Foundation, Extractors, Smokers; in fact, everything used about the bees. My equipment, my stock of goods, the quality of my goods and my shipping facilities can not be excelled.

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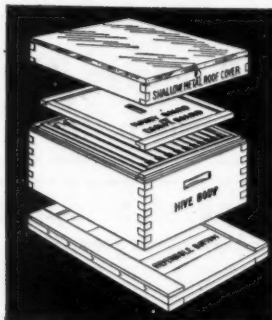
For extracted honey. Made of heavy paper and paraffine coated, with tight seal. Every honey-producer will be interested. A descriptive circular free. Finest white clover honey on hand at all times. I buy beeswax. Catalog of supplies free.

WALTER S. POWDER, Indianapolis, Ind.

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Protection Hive Bingham Smokers



The best and lowest-priced double-wall hive on the market. This hive has 3/4-in. material in the outer wall and it is not cheaply made of 3/8 material as are some other hives on the market. Send for CIRCULAR showing 12 large illustrations. It will pay to investigate.

Insist on "Old Reliable" BINGHAM SMOKERS, for sale by all dealers in Beekeepers' supplies. For over 30 years the standard in all countries. The smoker with a valve in the bellows, with direct draft, bent cap, inverted bellows and soot-burning device.

Smoke Engine, 4-inch, each, \$1.25; mail, \$1.50.
Doctor, 3 1/2-inch, each, 85c; mail, \$1.10.
Conqueror, 3-inch, each, 75c; mail, \$1.00.
Little Wonder, 2-in., ea., 50c; mail, 65c.
Honey-Knife, 60 cents; mail, 80 cents.

BINGHAM
CLEAN
BEE SMOKER



PAT'D 1876, '82, '92 & 1908

Manufactured only by

A. G. WOODMAN CO., Grand Rapids, Mich.

Famous Queens!

From Improved Stock.

The Best That Money Can Buy

Not inclined to swarm, and as for Honey-Gathering they have few equals.

Three-band, Golden, and Carniolans—bred in separate yards; ready March 20th. Untested, \$1.00; 6 for \$5; 12 for \$9. Tested, \$1.50; 6 for \$8; 12 for \$15.00. Breeders of either strain, \$5.00.

Nuclei, with Untested Queens—1-frame, \$2.50; six 1-frame, \$15; 2-frame, \$3.50; six 2-fr., \$20.40.

Nuclei with Tested Queens—1-frame, \$3.00; six 1-frame, \$17.40; 2 frame, \$4.00; six 2-frame, \$23.40.

Our Queens and Drones are all reared from the Best Select Queens, which should be so with the Drones as well as the Queens. We guarantee safe arrival and satisfaction.

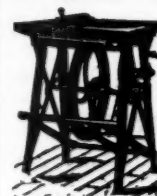
D. E. BROTHERS,

2A9t

Jacksonville, Ark.

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BARNES' Foot-Power Machinery



Read what J. L. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter, 60 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

Address, W. F. & JOHN BARNES, 306 Eddy St., Rockford, Ill.

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Myers Famous Lockstitch Sewing Awl

Is designed particularly for farmers' use, but it will be found a time-saver and money-saver in nearly every household. It is not a novelty, but a practical hand-sewing machine for repairing shoes, harness, belts, carpets, rugs, tents, awnings, canvas of all kinds, gloves, mittens, saddles, etc.; you can also tie comforts. The Awl proper is grooved to contain the thread or waxed end, and the point being diamond shape will go through the thickest of leather, green or dry, any thickness.

The "Myers Awl" can be used with either straight or curved needle, both of which come with the outfit, and veterinarians will find it indispensable for sewing up wire cuts in stock. The "Myers Lock-Stitch Sewing Awl" is a necessity for the people; can be carried

MYERS
Famous Lock Stitch
SEWING AWL



**Sews Leather
Quick**

in pocket or tool chest; nothing to lose, always ready to mend a rip or tear. Better than rivets because it is portable. Can be carried in mower or harvester tool-box, threshing kit, or anywhere. If you save one trip to town for mending, you are money ahead. Every farmer needs one, every man who teams needs one. It is the most practical hand-sewing machine for actual use ever devised. Put up with straight and curved needles, waxed thread, illustrated book of directions, and everything ready for use.

Our Special Offers of this Famous Sewing Awl.

We mail the MYERS LOCK-STITCH SEWING AWL for \$1.00; or club it with the American Bee Journal for one year—both for only \$1.60; or we will mail the AWL free as a premium for sending us only Two New Subscriptions to the American Bee Journal for one year, with \$2.00. Surely here is an article that will be very useful in every home. Address all orders to—

American Bee Journal, Hamilton, Illinois.

If YOU want them
YELLOW try the
GENTLE strains of
of Swarthmore pedi-
greed **GOLDEN**
QUEENS.

Swarthmore, Pa.

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EVERY BEE-KEEPER KNOWS

The Worth of A Good Queen

Knows the worth of a good strain of bees and also knows how worthless is a poor queen and inferior bees. Try our strain of three-banded Italians, they will not disappoint you. Tested queen, \$1.00 each; Untested, 75c; \$7.00 per doz. No disease. Send for price-list. 6Atf

J. W. K. SHAW & CO.,

Loreauville, Iberia Parish, La.

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English Honey-Spoon.



This fine 90c Honey-Spoon and the American Bee Journal for one year—both for only \$1.75. Send all orders to the American Bee Journal, Hamilton, Ill.

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HONEY AND BEESWAX

CHICAGO, June 20.—The sales of honey, both comb and extracted, have been of light volume during the month of June, but we should have some of the new crop during July. This market, however, does not care for it to any extent prior to August. Prices on comb are from 15¢ to 18¢ per lb., where it grades from No. 1 to fancy white; the ambers range from 10¢ to 12¢, and some of the fancy light ambers are 13¢ to 15¢. Extracted, white, according to kind and quantity, sells at from 8¢ to 9¢, and the ambers from 7¢ to 8¢ per lb. Beeswax is steady at from 30¢ to 32¢ per lb. for the average grade.

R. A. BURNETT & CO.

INDIANAPOLIS, June 10.—No arrivals of new honey at this date. Best extracted honey sells at 11¢ to 12¢ in 5-gallon cans. Several cars of comb honey arrived on this market during March, and much remains in the jobbing houses unsold, and no definite prices can be named on comb at this writing. Beeswax is in good demand, and producers are being paid 30¢ per pound. WALTER S. POWDER.

NEW YORK, June 10.—Nothing new in comb honey; small shipments of the new crop are coming in from the South, and are selling at from 13¢ to 16¢, according to quality. Arrivals of the new crop of extracted honey from the South are now coming in quite freely, as well as from the West Indies. Prices are rather unsettled as yet, ranging all the way from 70¢ to 90¢ per gallon, according to quality. Reports from California are rather conflicting, some of them estimating this year's crop at 500 cars, while others claim a very

short crop. No offerings have been made as yet that we know of, and no prices established. Beeswax steady at from 30¢ to 31¢.

HILDRETH & SEGELKEN.

BOSTON, June 20.—Fancy white comb, 17¢ to 18¢; light amber, 15¢; amber, 14¢. Fancy white extracted, 10¢ to 11¢; light amber, 9¢ to 10¢; amber, 8¢. Beeswax, 30¢.

White comb honey is wanted here, and will sell at 18¢ to 20¢ per lb. for first arrivals, as it is in demand very much.

BLAKE-LEE CO.

KANSAS CITY, Mo., June 21.—Everybody is anxiously waiting for some new honey. We believe that No. 1 24-section, white, comb honey will bring at first \$3.75 per case. Of course, off grades bring a little less. There is little demand for extracted honey, and it is selling for 7¢ to 8¢, according to quality.

C. C. CLEMONS PRODUCE CO

SAN FRANCISCO, June 20.—The new crop of comb honey is selling at 15¢ to 16¢ per lb. Water-white extracted honey, 9¢ to 10¢ per lb.; light amber, 8¢ to 9¢; amber, 7¢ to 8¢; dark, 5¢ to 6¢ per lb. Beeswax, 23¢ to 28¢, according to grade and quality. A few small shipments of new comb honey have been received, and the demand exceeds the supply.

J. C. FROHLIGER.

DENVER, June 21.—The old crop of comb honey is all sold. We expect the first of the new crop by the middle of July, if weather conditions are favorable. We have a good stock of very fine extracted honey which we are quoting in a jobbing way at 9¢ for strictly

white; light amber, 8¢; strained, 6¢ to 7¢. We pay 26¢ in cash and 28¢ in trade per lb. for clean, yellow beeswax delivered here. THE COLO. HONEY-PRODUCERS' ASS'N. F. Rauchfuss, Mgr.

CINCINNATI, June 20.—There is very little demand for honey at the present time, nevertheless for the fancy comb honey we have we are getting \$3.75 a case from the wholesaler, and \$4.00 from the retailer. Light amber honey in large quantities we are selling at 6¢ to 7¢ per lb., and fancy table at from 8¢ to 10¢, according to the quantity and quality purchased.

Owing to the great loss of bees, no doubt there will be a fall in the price of beeswax, and only for choicest wax can we pay 32¢ to 30¢ per pound delivered here.

THE FRED W. MUTH CO.

Missouri-Bred Queens!

My strain of bees is the result of many years' breeding and selection. I believe they are equal to any, and surpassed by none. They are long lived, winter well, breed early, and are unexcelled honey getters. The workers are long-bodied, good-sized bees, uniformly marked with bands of orange yellow. They are good comb-builders, gentle and easy to handle, and yet protect their homes from robbers. You will make no mistake in introducing these queens into your apiary. I guarantee safe delivery at your post-office, and make a specialty of long and difficult shipments. I endeavor to keep a large supply of queens on hand. Prices as follows:

Untested—One, 60¢; 6, \$3.25; 12, \$6.00. Select Untested—1, 75¢; 6, \$4.25; 12, \$8.00. Tested, 1, \$1.25; 6, \$5.50; 12, \$12.00. Select Tested—1, 1.50; 6, \$8.00; 12, 15.00. Two-comb Nuclei with laying queens, \$3.00 each; 3-comb Nuclei with laying queens, \$3.50 each. Discounts on large orders.

L. E. ALTWEIN, St. Joseph, Mo.
Please mention Am. Bee Journal when writing.

Special Delivery

During this month we shall double our usual efforts in points of delivery and service. Early indications not having been most favorable, it is possible many bee-keepers will not have laid in a sufficient stock of supplies, such as sections and foundation, for the clover and basswood crop this month. We are prepared to make up for this oversight by having a large stock of both sections and foundation on hand for instant delivery. We carry nothing but the Root make, which insures the best quality of everything. We sell at factory prices, thereby insuring a uniform rate to every one. The saving on transportation charges from Cincinnati to points south of us will mean quite an item to bee-keepers in this territory. We are so located that we can make immediate shipment of any order the day it is received.

HONEY AND BEESWAX

If you haven't made arrangements for the disposition of your honey and wax for this season, consult us. We buy both in large quantities, and can assure you of fair and courteous treatment, and a good price for your crop.

Shipping-Cases.

To sell your crop to the best advantage it must be well put up in attractive style. We have shipping-cases that answer every requirement of looks and utility. Small producers who sell their crops locally will be interested in the cartons in which comb honey is put up to sell to the fancy customers at top-notch prices. We have honey-cans, too, in cases for those who produce extracted honey. In fact, there isn't anything we don't have that the bee-keeper needs, either to produce his crop or help to sell it.

C. H. W. WEBER & CO.

2146 Central Avenue.

CINCINNATI, - - - - - OHIO.

RUSH orders for

"falcon"

Beekeepers' Supplies

Beeway sections.	No. 1 quality.	No. 2 quality.
250	\$1.60	\$1.40
500	2.75	2.50
1000	5.50	5.00
5000	23.75	21.25

Price per lb.	1 lb.	5 lb.	50 lb.
Light Section Foundation.....	.65c	.64c	.59c
Brood ".....	.58c	.57c	.52c

Hoffman Brood Frames, 10, 35c; 100, \$3.00.

No. 14 1-story Dovetailed Hive, cover, body, bottom and frames:

	8-frame	10-frame
1	5	10
	\$1.50	\$7.00
	\$13.50	\$1.60
	\$7.50	\$14.50

Dovetailed supers complete without sections and starters:

8-frame 10-frame
 No. 2, 4 1/2 1% completed 5 10 5 10
 B2 4 1/2 x 1 1/2 sections \$2.50 \$4.80 \$2.75 \$5.30.

Plain sections 25c; per M less.
 Dewey Foundation Fastener, each \$1.25; by mail, \$1.50.
 Ideal Bee-Veil, 65c; by mail, 75c.
 Untested Italian queens, 1, \$1.00, 6, \$5.50.
 Tested " " 1, 1.50, 6, 8.00
 Order from nearest dealer. If you don't know the name drop us a postal. Red catalog postpaid.

W. T. Falconer Mfg. Company, Falconer, N. Y.

Where the good bee-hives come from

C. C. Clemons Bee-Supply Co.
 130 Grand Ave., Kansas City, Mo.

H. S. Duby, St. Anne, Ill.

Section Honey Extractor

FOR THE EXTRACTION OF HONEY FROM UNFINISHED SECTIONS

All of the extractor is made of metal and well finished so as to be strong and durable. It is in fact a

Baby Extractor. Suited exactly to the use of the producer who has many sections which he is unable to market and which he wishes to use as bait sections the following season. Total weight of the extractor boxed is 10 pounds. It will come cheaply by express. Price for the reversible style \$4.50. Price for the non-reversible \$3.00. Section Uncapping Knife - 50c. Address all orders to

**A. H. OPFER, 6259 Patterson Ave.
 CHICAGO, ILL.**

OUR HAND-MOORE STRAIN

3 Band Italians

Are the best Honey-Gatherers. They spoil our white-clover honey by mixing it with red-clover. Breed strictly for business. Untested, 75c; 12 for \$8.00; 50 for \$25.00.

**LATSHAW HONEY COMPANY,
 CARLISLE, IND.**

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NEW ENGLAND BEE-KEEPERS

Everything in Supplies.
 New Goods. Factory Prices.
 Save Freight & Express Charges
**Cull & Williams Co.
 4 Atf PROVIDENCE, R. I.**

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FINEST QUALITY

of 3-band Italian Queens reared in the 50th latitude. Tested - June, \$3.00; July, \$2.50; August, \$2.00. Breeder - June, \$6.00; July, \$5.00; August, \$4.00. Dec., 25% discount.

Alexander Lundgren,

5A3t 12 Tomtebogatan,
 STOCKHOLM, SWEDEN.

I Breed Golden Queens

and Bees by the best known methods, and best apiarist; in full colonies in prime condition for rearing Queens. Untested, \$1.00; Full 8-frame Colonies, \$5.00 each. Guaranteed no disease. 5Atf

M. Bates, Rt. 4, Greenville, Ala.

Please mention Am. Bee Journal when writing.

GOLDEN QUEENS

that produce golden workers of the brightest kind. I will challenge the world on the color of my GOLDENS, and as good honey-getters. Price \$1.00 each; tested, \$2.00. Breeders \$5.00 and \$10.00.

J. B. BROCKWELL,

BARNETTS, - - - VIRGINIA.
 Please mention Am. Bee Journal when writing.

Crown Bone Cutter

Best Made - Lowest Price
 FEED your hens cut green bone and get more eggs. With a Crown Bone Cutter you can cut up all scrap bones easily and quickly, and without any trouble, and have cut bone fresh every day for your poultry. Send us once for free catalogue. WILSON BROS., Box 814, Easton, Pa.

ALUMINUM HIVE NUMBERS; 1 1/2 inches high

2c Each figure. 50 or more 1 1/2c postpaid, including brass nails. 7A3t HENRY BENKE, Pleasantville, N. Y.

QUEENS OF MOORE'S STRAIN OF ITALIANS

PRODUCE WORKERS

That fill the supers quick With honey nice and thick.

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc. Untested queens, \$1; six, \$5; 12, \$11. Select untested, \$1.25; six, \$6.00; 12, \$10.00. Safe arrival and satisfaction guaranteed. Circular free. J. P. MOORE,

Queen-breeder, Route 1 Morgan, Ky.

Please mention Am. Bee Journal when writing.

Carniolan Queens.

Bred from best imported stock. After July 1st

	1	6	12
Untested - -	\$.75	\$4.00	\$7.20
Tested - - -	1.00	5.50	10.00

Wm. KERNAN, R. D. 2, Dushore, Pa.

Please mention Am. Bee Journal when writing.

CORN

HARVESTER with Binder Attachment cuts and throws in piles on harvester or windrow. Man and horse cuts and shocks equal with a corn Binder. Sold in every state. Price \$20.00. W. H. BUSTON, of Johnstown, Ohio, writes: "The Harvester has proven all you claim for it; the Harvester saved me over \$25 in labor last year's corn cutting. I cut over 500 shocks; will make 4 bushels corn to a shock." Testimonials and catalog free, showing pictures of Harvester. Address **New Process Mfg. Co., Salina, Kas.** Please mention Am. Bee Journal when writing.

Michigan

Established in 1878

Texas

Pioneer Establishment for the Breeding of Pure Caucasian Queens. All Imported Queens bred under my instructions in the Caucasus Mountains. Tested two years before breeding from. The whitest comb-builders on earth. Will work while others starve. Gentle as flies. Hive full of brood all through the season. My Italians need no commenting on—the thousands I have sold tell the tale. Send for prices. 5A6t

A. D. D. WOOD

Box 82, Houston Heights, Tex., or

Box 61, Lansing, Mich.

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